TECHNOLOGY DEPT.

May 28, 1941

NATIONAL PETROLEUM NEWS

PUBLIC LIBRARY
MAY 29 1941
DETROIT

SAVING FUEL IN REFINERIES

The large proportion of refinery gas used for fuel, together with increasing demand for this gas as raw material in making high anti-knock gasoline, makes fuel economy in modern refineries doubly important—through savings in direct operating costs and conservation of an important raw material. In this issue, on this subject—

Fuel Economies through Heat-Exchanging Flue Gases with Air Used for Combustion ..... Page R-162

Description of Regenerative-Type Air Preheater ..... Page R-168

NEWS IN BRIEF

Revision of 'emblem' oil specifications studied by Pennsylvania Grade Crude Oil Assn. Page 16.

* * *

June motor fuel demand forecast shows 11% increase over 'normal'. Page 9.

* * *

Crude postings continue advance throughout U. S. Page 17.

* * *

Government asks oil industry to halt further gasoline price rises. Page 9; meeting of crude producers and buyers with OPACS scheduled for next week. Page 10.

Government may requisition 50 more tankers for British aid. Page 9.

* * *

OPM sees need for steel conservation for new pipeline projects. Page 11.

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Four Penn grade states may join Interstate Oil Compact. Page 19.

* * *

Texas proration policy threatened as senate withholds action on bill. Page 18.

* * *

Illinois views new conservation bill backed by 3 state oil groups. Page 20.

REFINING TECHNOLOGY EDITION

Stop VAPOR LOSSES

Fig. 148

Fig. 312

Savings are assured when bulk tanks are equipped with Morrison vent valves.

Fig. 312 illustrates the Morrison Oil Seal Vent while Fig. 148 shows the mechanical or poppet type of vent.

Morrison vent valves are fully automatic.

Write for literature and prices.

MORRISON BROS. COMPANY

OIL EQUIPMENT HEADQUARTERS

DUBUQUE, IOWA

COMING MEETINGS

JUNE

Society of Automotive Engineers, Summer Meeting, The Greenbrier, White Sulphur Springs, W. Va., Sun.-Fri., June 1-6.

Oil Trade Assn. of Philadelphia, Golf Outing, Torresdale-Frankford Country Club, Philadelphia, Pa., Wed., June 4.

California Natural Gasoline Assn., June Frolic, Riviera Country Club, Santa Monica, Calif., Sat., June 7.

Illinois-Indiana Petroleum Assn., 9th Annual Petroleum Conference, Robinson, Ill., Sat., June 7.

Liquefied Petroleum Gas Assn., Inc., Pacific Coast Section, Fairmont Hotel, San Francisco, Calif., Mon.-Tues., June 9-10.

Oil Trades Assn. of New York, Sports Day, Pelham Country Club, Pelham Manor, N. Y., Tues., June 10.

American Society of Mechanical Engineers, Petroleum Division, Kansas City, Mo., Mon.-Fri., June 16-20.

Pennsylvania Grade Crude Oil Assn., Annual Meeting, Bradford, Pa., Thurs.-Fri., June 19-20.

Arkansas Petroleum Industry, 20th Anniversary Celebration, El Dorado, Ark., Thurs.-Sat., June 19-21.

Kentucky Oil & Gas Assn., Mid-Year Meeting, Lexington, Ky., Fri.-Sat., June 20-21.

American Society for Testing Materials, 44th Annual Meeting, Palmer House, Chicago, Ill., Mon.-Fri., June 23-27.

New Jersey Oil Trade Assn., Spring Golf Outing and Dinner, Suburban Golf Club, Union, N. J., Tues., June 24.

North Carolina Independent Oil Jobbers Assn., Summer Convention, Mayview Manor, Blowing Rock, N. C., Fri.-Sat., July 25-26.

AUGUST

National Assn. of Petroleum Retailers, 9th Annual Convention, La Salle Hotel Chicago, Ill., Tues.-Thurs., Aug. 19-21.

SEPTEMBER

American Chemical Society, Atlantic City N. J., Mon.-Fri., Sept. 8-12.

Oil Trades Assn. of New York, Sports Day, Pelham Country Club, Pelham Manor, Pelham Manor, N. Y., Tues., Sept. 9.

National Petroleum Assn., Hotel Traymore, Atlantic City, N. J., Wed.-Fri., Sept. 17-19.

Society of Automotive Engineers, National Tractor Meeting, Schroeder Hotel, Milwaukee, Wis., Thurs.-Fri., Sept. 25-26.

New Jersey Oil Trade Assn., Fall Golf Outing and Dinner, Suburban Golf Club, Union, N. J., Fri., Sept. 26.

National Lubricating Grease Institute, 9th Annual Meeting, Stevens Hotel, Chicago, Ill., Mon.-Tues., Sept. 29-30.

OCTOBER

Texas Mid-Continent Oil & Gas Assn., Beaumont, Tex., Tues.-Thurs., Oct. 9-11.

American Institute of Mining & Metallurgical Engineers, Petroleum Division, Dallas, Tex., Thurs.-Sat., Oct. 16-18.

Society of Automotive Engineers, National Aircraft Production Meeting, Baltimore Hotel, Los Angeles, Calif., Thurs.-Sat., Oct. 30-Nov. 1.

California Natural Gasoline Assn., Los Angeles, Calif., Fri., Oct. 31.

NOVEMBER

American Institute of Chemical Engineers, 34th annual meeting, Cavalier Hotel, Virginia Beach, Va., Mon.-Wed., Nov. 3-5.

American Petroleum Institute, 22nd Annual Meeting, San Francisco, Calif., Mon.-Fri., Nov. 3-7.

American Assn. of Petroleum Geologists, Los Angeles, Calif., Thurs.-Fri., Nov.

DECEMBER

New Mexico Oil & Gas Assn., Artesia, New Mex., Wed., Dec. 3.

APRIL, 1942

National Petroleum Assn., 39th Semi-Annual Meeting, Hotel Cleveland, Cleveland, O., Apr. 16-17.

NATIONAL PETROLEUM NEWS

MAY 28, 1941

NEWS

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THIS WEEK WITH NPN

ALL OUT FOR DEFENSE

It's really "all out for defense" thought NPN's News Editor A. M. Petty when he found it necessary to be fingerprinted and otherwise identified before being allowed to visit the Army's Camp Blanding, near Jacksonville, Fla., to get another in the series of stories on how defense projects are affecting oil marketing. A photograph of Petty's "entrance card" is shown on page 21 of this week's oil defense story.

PLAN IT THAT WAY

A number of NPN readers make temporary changes of address during the summer and by notifying us in advance are never without their weekly NPN. If you are planning an extended vacation, let us know and we'll see that NPN reaches you every week.

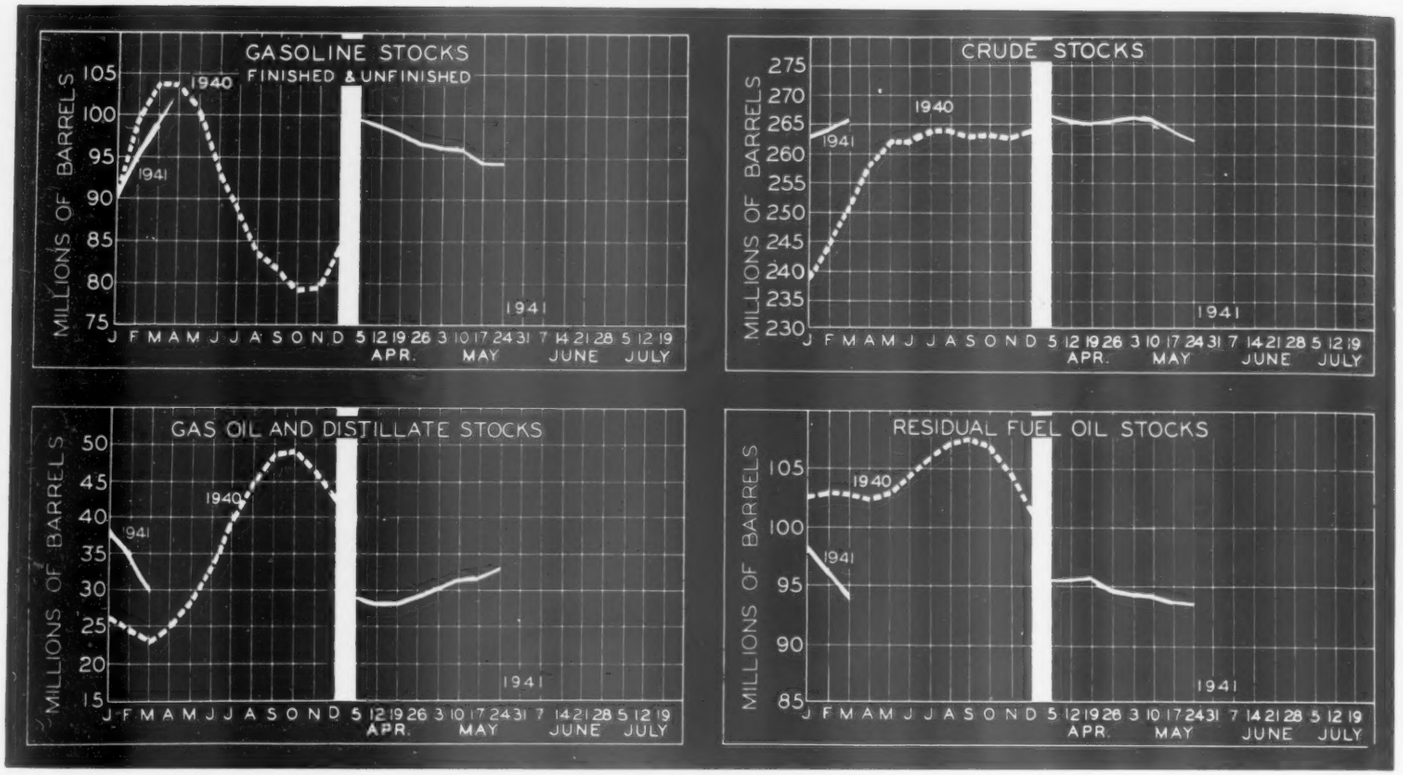
BIKE'S EYE VIEW

Arriving in Holland, Mich., last week to cover the annual tulip festival, a NPN staff writer found the town so jammed with tourists that more than snail-pace navigation was impossible. So he wrapped his 6-ft. 4-in. frame around a bicycle, legging the velocipede through car-packed streets to give you a "bike's eye view" of how a tulip can affect the sale of gasoline and motor oil. Story, which starts on page 29, gives a hint of the business oil marketers throughout the country will be doing this summer.

'YOURS TRULY'

NPN recently advised a reader that his subscription would soon expire. By return mail was this note: "You may rest assured that I will never let my NPN subscription lapse as I could not do without my weekly NPN. Have taken it continuously for the 14 years I have been connected with the Oil Industry."

•STATISTICS•


GASOLINE STOCKS
FINISHED & UNFINISHED
MILLIONS OF BARRELS
1940
1941
CRUDE STOCKS
GAS OIL AND DISTILLATE STOCKS
RESIDUAL FUEL OIL STOCKS
J F M A M J J A S O N D 5 12 19 26 3 10 17 24 31 7 14 21 28 5 12 19
APR. MAY JUNE JULY

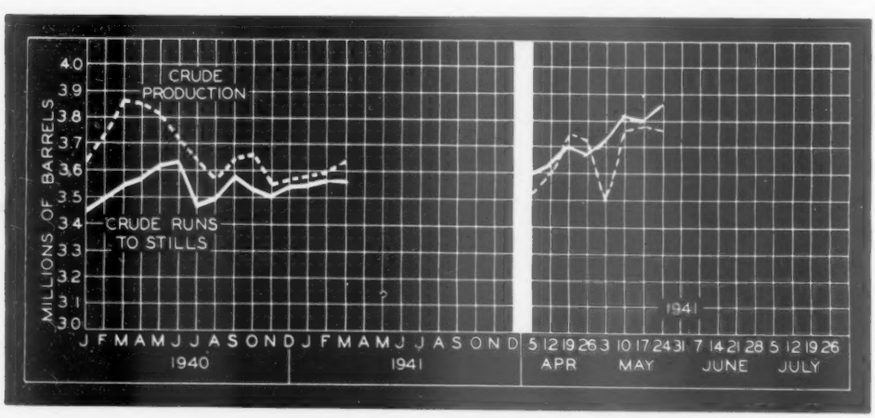
A.P.I. Report of Refinery Operations

(Figures in Thousands of Barrels of 42 Gallons Each)

Districts	Daily Average Crude Runs to Stills Week Ended May 24	May 17	Per Cent of Reporting Capacity Operated Week Ended May 24	May 17	Gasoline Production at Refineries incl. Natural Blended Week Ended May 24	May 17	Total Stocks Finished & Unfinished Gasoline Week Ended May 24	May 17	Total Stocks Gas Oil & Distillates Week Ended May 24	May 17	Total Stocks Residual Fuel Oil Week Ended May 24	May 17	Stocks Aviation Gasoline Included in Finished & Unfinished Gasoline Total Week Ended May 24	May 17
East Coast	603	570	93.8	88.6	1,584	1,628	21,157	20,587	9,122	8,879	8,467	8,156	East Coast	
Appalachian	123	127	86.6	89.4	466	466	2,957	2,852	379	337	470	476	635	656
Ind., Ill., Ky.	634	637	94.6	95.1	2,414	2,355	17,700	17,852	2,883	2,758	3,479	3,429		
Okla., Kans., Mo.	295	288	91.3	89.2	1,101	1,120	8,179	8,330	1,284	1,257	1,906	1,913	Interior	
Inland Texas	136	146	81.4	87.4	608	625	2,342	2,318	362	354	1,429	1,415	1,012	987
Texas Gulf	962	923	100.7	96.6	3,100	3,021	14,630	15,064	6,043	5,620	6,975	6,815	Gulf Coast	
La. Gulf	145	137	90.6	85.6	371	391	3,489	3,435	1,233	1,168	1,659	1,752	3,788	3,681
N. La., Ark.	46	52	88.5	100.0	127	149	473	533	321	313	507	476		
Rocky Mt.	43	43	63.2	63.2	212	207	1,692	1,706	130	144	502	509	California	
California	545	547	74.7	74.9	1,448	1,574	15,567	15,560	10,685	10,427	66,820	67,471	1,647	1,628
Reported	3,532	3,470	90.3	88.7	11,431	11,536	88,186	88,237	32,442	31,257	92,214	92,412	7,082	6,952
Estimated Unreported	335	335			1,435	1,465	6,625	6,630	660	625	1,560	1,575	310	300
U. S. Total*	3,867	3,805			12,866	13,001	94,811	94,867	33,102	31,882	93,774	93,987	7,392	7,252
U. S. Total 5-24-40*	3,607				11,386		101,557		27,413		102,932		5,427	

*Estimated, U. S. Bureau of Mines basis.

U. S. Crude Oil Production


CRUDE PRODUCTION
CRUDE RUNS TO STILLS
MILLIONS OF BARRELS
1940
1941
J F M A M J J A S O N D J F M A M J J A S O N D 5 12 19 26 3 10 17 24 31 7 14 21 28 5 12 19 26
APR MAY JUNE JULY

(American Petroleum Institute figures)

	WEEK ENDED May 24 Barrels (Daily Average)	May 17 Barrels (Daily Average)
Oklahoma	414,700	415,750
Kansas	216,950	218,200
Nebraska	4,350	4,350
Texas	1,402,000	1,403,300
Louisiana	319,800	315,300
Arkansas	73,000	72,700
Mississippi	28,000	28,000
Illinois	320,700	325,700
Indiana	20,700	19,750
Eastern (Ill. & Ind. excluded)	90,250	90,350
Michigan	38,000	38,400
Wyoming	82,950	81,350
Montana	19,000	18,900
Colorado	3,950	3,700
New Mexico	113,100	112,700
California	625,400	636,000
Total U. S.	3,772,850	3,784,450
Crude Imports	124,430	113,000
Total New Supply	3,897,280	3,897,450

•STATISTICS•

NPN Gasoline Index

	Dealer T.W. Cents per Gallon	Tank Car Cents per Gallon
May 26	9.70	6.33
Month ago	9.26	5.68
Year ago	9.05	5.63

Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities.

Tank car index is a weighted average of 9 wholesale markets for regular-grade gasoline.

Crude Oil Stocks

(U. S. Bureau of Mines Figures; Thousands of Barrels)

Grade or Origin	May 10	May 17	Change
Pennsylvania Grade	4,266	4,227	— 39
Other Appalachian	1,361	1,364	+ 3
Lima-Michigan	1,046	1,043	— 3
Illinois-Indiana	21,895	21,526	—369
Arkansas	2,802	2,902	+100
Kansas	8,761	8,767	+ 6
Louisiana:	12,432	12,339	— 93
Northern	4,188	4,008	—180
Gulf Coast	8,244	8,331	+ 87
Mississippi	1,025	1,165	+140
New Mexico	7,331	7,402	+ 71
Oklahoma	61,234	60,517	—717
Texas:	86,630	86,439	—191
East Texas	21,951	21,926	— 25
West Texas	16,085	15,624	—461
Gulf Texas	23,518	23,889	+371
Other Texas	25,076	25,000	— 76
Rocky Mountain	15,502	15,560	+ 58
California	37,175	36,849	—326
Foreign	2,534	2,545	+ 11
Total United States refinable	263,994	262,645	—1,349
Heavy in California	11,649	11,597	— 52

Pennsylvania Refined Products

(Compiled by National Pet. Ass'n. from reports of oil region refiners; Figures in barrels.)

	Inventory April 30, 1941
1—NAPHTHAS & GASOLINE	
(1) Straight run, unblended and/or unleaded, for sale as motor fuel	37,708
(2) Naphtha and gasoline, for sale for blending or further refining, or held at refinery for further distillation, reforming, blending or leading	199,424
(3) Below 65 octane, not included in (1) or (2) above	14,618
(4) 65 octane & above	419,615
2—Salable naphthas other than motor fuel material (does not include Refinery Process Naphthas)	22,759
3—Kerosine	58,122
4—36-40 gas oil (includes furnace oil)	33,876
5—Fuel Oil (not reported above)	18,493
6—Oils held as cracking plant charging stocks	284,853
7—Non-viscous neutral	21,800
8—Wax distillate	92,267
9—Crude petrolatum	12,234
10—Wax (lbs.)	6,748,078

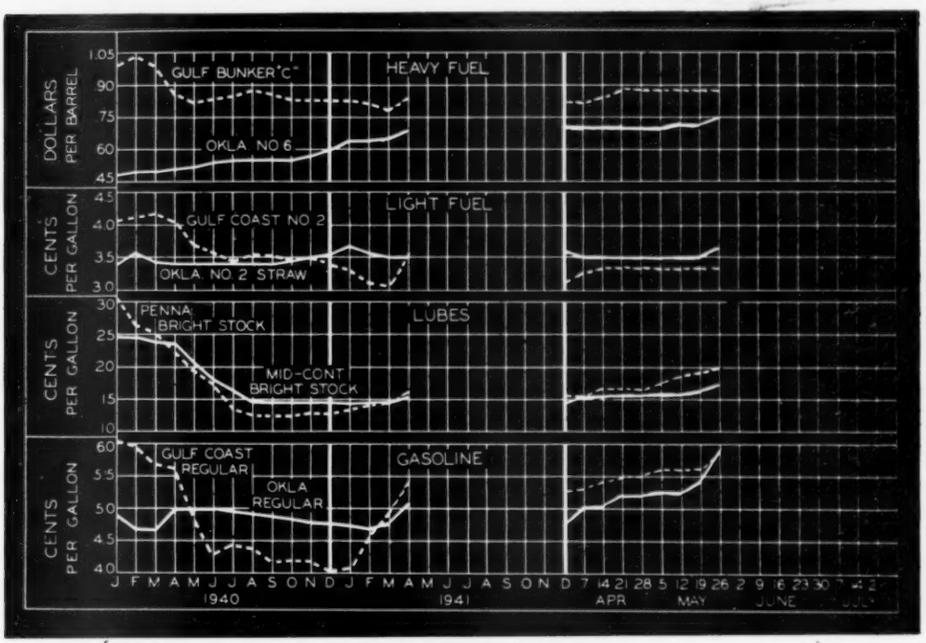
G.C.R.A. Stocks Report

(Compiled by Gulf Coast Refiners Assn. from reports of member companies. Figures in barrels.)

	May 15	May 1
Gasoline Stocks, Total (Includes Aviation, Motor fuel and Naphtha)	2,365,194	2,502,707
Aviation Gasoline	529,245	560,698
Motor Fuel	1,783,269	1,833,955
Naphtha	52,680	58,054
Kerosine	372,160	310,702
Diesel Gas Oil	620,562	597,622
Diesel Fuel	22,906	29,853
Gas Oils, other types	1,003,733	811,164
No. 5 Fuel Oil	222,659	163,549
Bunker "C" Fuel Oil	453,003	336,508
Crude Runs (daily average)	74,563	76,757

REFINERY PRICES

Monthly prices in graphs are averages of daily high and low prices shown in Platt's Oilgram. Weekly prices are averages of high and low prices shown in Monday Oilgram, and in NPN



Natural Gasoline

(Bureau of Mines Figures; Thousands of Gallons)

	Production				Stocks — Mar. 31, 1941 — At refineries	Stocks — Mar. 31, 1941 — At plants and terminals	Stocks — Feb. 28, 1941 — At refineries	Stocks — Feb. 28, 1941 — At plants and terminals
	Mar. 1941	Feb. 1941	Jan.-Mar. 1941	Jan.-Mar. 1940				
East Coast					1,932		3,234	
Appalachian	9,118	8,502	26,911	25,046	210	8,453	168	6,885
Ill., Mich., Ky.	5,057	4,412	14,323	6,397	5,124	829	3,486	819
Oklahoma:	31,612	28,498	91,626	96,971	1,890	22,203	2,520	22,240
Oklahoma City	6,187	5,689	18,413	21,095	*	7,965	*	7,977
Osage County	4,559	4,087	12,664	12,163	*	5,423	*	6,109
Seminole	8,969	7,808	25,582	27,161	*	3,323	*	3,014
Rest of State	11,897	10,914	34,967	36,552	*	5,492	*	5,140
Kansas	6,258	6,712	19,821	17,057	84	956	85	811
Texas:	86,011	80,399	250,183	201,166	5,670	78,631	3,864	74,000
Gulf	20,558	19,260	60,053	39,149	4,830	27,709	2,898	29,306
East Texas	13,211	11,599	37,300	41,081	*	617	*	516
Panhandle	22,907	23,257	68,516	65,907	*	45,321	*	38,430
North Texas	2,126	2,000	6,306	7,171	*	421	*	589
West Central	5,104	4,777	15,209	16,124	*	1,508	*	1,536
Rest of State	22,105	19,406	62,799	31,734	*	3,055	*	3,623
Louisiana	10,022	9,126	28,423	25,942	126	2,188	252	2,103
Arkansas	2,892	2,530	8,328	6,174	420	341	294	276
Rocky Mountain	7,895	7,059	22,830	20,357	3,738	2,051	3,444	1,697
California:	47,607	44,492	140,885	144,328	87,024	2,032	94,962	1,923
Huntington Beach	2,579	2,332	7,475	7,972	*	*	*	*
Kettleman Hills	9,263	9,373	29,118	31,042	*	*	*	*
Long Beach	7,485	6,780	21,692	21,836	*	*	*	*
Sante Fe Springs	4,726	4,258	13,646	14,040	*	*	*	*
Ventura Avenue	4,871	4,546	14,448	15,819	*	*	*	*
Rest of State	18,683	17,203	54,506	53,619	*	*	*	*
Total	206,472	191,730	603,330	543,438	106,218	117,684	112,308	110,754
Daily average	6,660	6,848	6,704	5,972	...	...	...	...
Total (thousands of of barrels)	4,916	4,565	14,365	12,939	2,529	2,802	2,674	2,637
Daily average	159	163	160	142	...	...	...	...

*Not available.

Pennsylvania Lubricating Oils

(Compiled by National Petr. Ass'n. from reports of all companies which refine Penna. crude Figures in bbls. of 42 U. S. gals.)

	Total Production For April, 1941	Inventory April 30, 1941	Inventory March 31, 1941	Inventory April 30, 1940
1—RAW LONG RESIDUUM (includes all raw long residuum below, and not salable as 600 fire)	78,268	34,775	28,839	22,328
2—600 STEAM REFINED STOCK (includes all steam refined stock commonly sold or used as 600 and as raw material for bright stock)	264,677	265,438	262,538	273,272
3—OTHER STEAM REFINED STOCK (not included in 1 & 2 above)	69,416	102,902	102,976	62,647
4—FINISHED DEWAXED LONG RESIDUUM	40,429	48,104	66,344	84,515
5—BRIGHT STOCK (does not include any material reported in 4 above)	163,416	422,581	458,458	410,517
6—VISCOUS NEUTRAL, below 180 vis. but not below 142 vis. at 100	76,077	79,936	66,485	181,113
7—VISCOUS NEUTRAL, 180 vis. at 100 and above	98,158	98,744	129,177	135,654

Lawrence Vander Leck

Former Roustabout Heads Oil Producers Agency

● Perhaps it's the beginning of "a new Spanish custom". At any rate, Lawrence Vander Leck, newly-elected president of Oil Producers Agency of California, is a descendant of one of California's first Spanish families. Familiar with the oil picture for many years, such production terms as "proration", "state quota", and "top well allowable" are as familiar to Mr. Vander Leck as "hacienda", "sombrero" and "gaucho" were to his ancestral dons.

After receiving a degree in geology from University of California in 1915, Mr. Vander Leck started his oil career as a roustabout in California's oil fields. From 1918-20, he worked with State Mining Bureau, now State Division of Oil Gas, and became chief geologist. While in this position, he wrote one of the state's first oil surveys, titled "Petroleum Resources of California".

Joining Fullerton Oil Co. in 1920, Mr. Vander Leck is now senior vice-president and a director of this organization.

Active in California's voluntary conservation program, Mr. Vander Leck was chairman of the Central Committee of California Oil Producers, predecessor to present Conservation Committee of California Oil Producers, from 1935 until June, 1940. This organization administers California's oil curtailment activities. The Oil Producers' new president is a member of the Conservation Committee and a director of California Oil and Gas Assn. and Independent Petroleum Assn. of America. Mr. Vander Leck succeeds L. L. Aubert as president of Oil Producers Agency.

When Office of Production Management requested American Petroleum Institute to appoint a fact-finding committee (in view of national defense requirements) to discuss "whether or not a formal petroleum industry committee should be formed," Mr. Vander Leck was named as one of the 22 committee members who met in New York City May 23.

NATIONAL PETROLEUM NEWS

VOLUME 33 WEDNESDAY, MAY 28, 1941 NUMBER 22

Bureau Forecasts June 'Gas' Demand 11% Above Normal

NPN News Bureau

WASHINGTON, May 24.—Domestic demand for motor fuel in June is estimated at 59,900,000 bbls. an increase of 8% over the abnormally high actual demand in June, 1940, and almost 11% over estimated normal for that month, Bureau of Mines reported this week.

Estimate of June exports of motor fuel, based on forecasts by principal exporters, is 1,700,000 bbls., exclusive of re-exports of motor fuel imported in bond.

Problem of available tankers for the Gulf to East Coast movement may become a serious factor, particularly if combined with larger naval fuel-oil requirements and further increases in total domestic demand that will require a more complete use of refinery capacity, Bureau said. Gasoline on hand in the East Coast district on April 30, 1941, amounted to about 21,300,000 bbls., which is 900,000 bbls. less than in 1939, the lowest of the 3 preceding years, while gasoline stocks in the Texas Gulf Coast district amounted to 16,500,000 bbls., or 3,500,000 bbls. higher than those in 1932.

Refining Hike Seen

Current conditions indicate increasing refinery operations in the Indiana-Illinois, Appalachian and Mid-Continent refinery districts, Bureau said. To the extent that larger crude oil requirements are met within this area, reductions in accumulated storage will be necessary to supplement current production for such states as Oklahoma and Illinois. Ultimately, pipeline movements of crude from more distant sources will be stimulated.

In view of strong domestic demand for motor fuel and probable further substantial increases in fuel oil requirements, Bureau said refinery runs should be at high level and that no abnormal reduction of storage is desirable.

Crude Demand Up

Daily average supply of domestic crude oil to meet market demand in June, 1941, is estimated at 3,830,000 bbls., this being 30,300 bbls. higher than estimated demand for May, and

(*Continued on page* 20)

U. S. May Take 50 More Tankers Cutting Deep Into Supply Lines

NPN News Bureau

NEW YORK, May 27—Against a background of reports that an additional 50 U. S. coastwise tankers—making 100 in all—will be requisitioned for British service, American Petroleum Institute's fact-finding committee was meeting here this week to study ways of maintaining a continuous supply of petroleum products to the eastern seaboard, despite diversion of these tankers.

Taking 100 tankers from coastwise service would be a 40% reduction in the 260 needed to supply the East Coast—unless some of the second 50 could be returned to domestic service after they had built up a stock pile at eastern ports for British tankers to take across the Atlantic under convoys.

East Coast requirements of petroleum products this year have been estimated at 1,500,000 bbls. daily, of which the domestic tanker fleet normally would transport 83% from the Gulf. If no more than 50 tankers were taken over, there would be a deficiency of 300,000 bbls. daily in transportation facilities; double that if 100 are taken for balance of 1941.

FDR Sees Rationing

To partially meet this deficiency, President Roosevelt has sent a strongly-worded message to Congress asking legislation to clear the way for construction of more gasoline pipelines, especially in the Southeast where railroads so far have blocked new lines with total capacity of 60,000 bbls. daily.

Even present demands upon East Coast transportation facilities "makes restriction of oil consumption to essential uses a distinct possibility within a few months," said President Roosevelt in his message urging speedy enactment of the Cole Pipeline Bill.

Burner Group Hits Rationing

Rationing of fuel oil and restriction of new burner installations has already been mentioned in some quarters at Washington. Oil Burner Institute met in New York recently at suggestion of defense officials and urged greater efficiency in burners to conserve fuel but opposed fuel oil rationing unless consumption of other petroleum products was also limited.

Canadian Touring Affected

Another angle to tanker situation is that shortage of petroleum supplies on East Coast would result in scarcity of motor fuel in Canada, cutting down American travel in that country. Use of more lake tankers to supply Canada and construc-

Expect Quick Action On Cole Pipeline Bill

WASHINGTON, May 27.—House Interstate and Foreign Commerce Committee is expected to give a favorable recommendation for immediate action on Cole Pipeline Bill (HR-4816) which empowers President Roosevelt to grant right of eminent domain to private pipeline projects and to build government pipelines, according to sources close to the committee.

(Discussion of southeastern pipeline situation before Cole committee, with map, is published on page 36—Editor's Note.)

Government Seeks To Halt Further 'Gas' Price Rises

NPN News Bureau

WASHINGTON, May 23. — Agreement that in general further substantial price increases in gasoline will be justified unless basic cost conditions change was reached by 22 oil company representatives and federal price officials at Office of Price Administration and Civilian Supply oil price conference held today, according to OPACS press release.

Refiners and marketers attending also agreed to forego any further gasoline price increases of substantial character without first consulting Price Administrator Leon Henderson, press release stated. OPACS announced price meeting with producers and buyers is scheduled for next week. Full text of OPACS release follows:

Text of OPACS

"Representatives of leading oil companies operating in the New England and Mid-Atlantic areas held a general discussion on recent price trends for gasoline, industrial fuel oil and lubricants, with officials of the Office of Price Administration and Civilian Supply today.

"OPACS officials have been concerned over recent price increases for such products along the eastern seaboard.

"It was the consensus of the meeting, with some reservations, that no further substantial increases in gasoline prices are called for unless basic cost conditions change. All refiners and marketers present agreed to the request made by OPACS officials not to institute further increases of a substantial character on gasoline prices without prior consultation with Leon Henderson, Administrator of OPACS.

To Meet On Crude

"It was insisted by industry representatives that increases to date have been due to cleaning up of distress gasoline stocks and increases in costs.

"It was stated by OPACS officials that a conference with crude oil producers and buyers will be held in the near future to consider the price situation in that sector of the industry.

"The meeting was conducted by Dr. J. K. Galbraith, head of the Price Division, and Quinn Shaughnessy, price executive in charge of the fuel section of the Price Division. Twenty-two companies were represented."

tion of new pipeline to Montreal may offset lack of coastwise tankers somewhat.

Stocks Plentiful at Gulf

Threatened shortage of refined products on eastern seaboard it was emphasized by both defense officials and industry spokesmen, is not due to any lack of refining capacity or crude supplies. There is ample capacity to meet all demands; stocks are plentiful at the Gulf. But diversion of tankers to help the British hase caused scarcity of transportation facilities to bring up crude or refined products to East Coast.

U. S. tankers are being turned over to British Supply Service to operate in a "shuttle service" between Gulf and Caribbean ports and Atlantic ports north of Cape Hatteras. British tankers pick up the products—little crude is moving to Britain nowadays—and take it over under convoy.

Southwest Protests

Report that first of the 50 tankers diverted to British service have been assigned to runs from Caribbean ports has brought protests from refiners with plants at the U. S. Gulf as well as southwestern producers.

Public notice of situation was taken by Russell B. Brown, Washington, general counsel for Independent Petroleum Assn. of America in a statement commenting on New York meeting May 23 of A.P.I. fact-finding committee and the prospective increase in diversion of tankers.

Mr. Brown said:

"Thus far there has been no justification offered for using all of these tankers to supply oil from the properties of 1 or 2 companies operating in foreign countries while so much domestic oil is available at our Gulf ports."

Texas Opposes Transfer

Texas legislators also took action to protest. Resolution adopted by Texas House on May 26 opposed further transfer of American tankers to British service, saying it would "materially affect market for Texas oil."

Author of the Texas legislative resolution, Rep. Morris, said the measure was no slap at any country because "the oil being taken from Venezuela belongs to American oil companies."

Advocates of this viewpoint also argued that the slightly-shorter haul from Aruba and Curacao didn't justify use of requisitioned tankers for this service, rather than hauling out of the American Gulf.

Earlier, Gulf Coast Refiners Assn. had appealed to Washington to provide sufficient boats to move their products to East Coast markets. And a similar plea was reported made at meeting of A.P.I. fact-finding committee.

Out of these protests may come a firm demand that the 25 or 50 additional tankers to be requisitioned be definitely earmarked for Gulf-Atlantic Coast service.

A. P. I. Group Meets

Meeting in New York on May 23, the A. P. I. fact-finding committee elected as its chairman, W. R. Boyd, Jr., executive vice-president of the Institute, and added 2 new members: William F. Humphrey, New York, Tide Water Associated Oil Co. and Lauren J. Drake, Chicago, of Union Tank Car Co. (Other members were listed in NPN, May 21, p. 16.)

When A.P.I. group met—at request of defense authorities—to consider ways of alleviating effect of tanker shortage, it also had on its agenda a proposal that consideration be given to setting up a formal committee to deal with Washington officials. This was requested by the Office of Production Management. There was some talk that out of this proposal might come a voluntary set-up for running oil industry in the present emergency, similar to the National Petroleum War Service Committee in the first World War. No decision was taken on this at the May 23 meeting.

However, inasmuch as co-ordination of oil companies' use of available transportation facilities will require considerable co-operation among the individual companies, it is expected that the OPM will be asked to set up some sort of co-ordinating agency.

Spectre of Madison Rises

Mindful of the Madison anti-trust prosecutions, which were the aftermath of similar efforts at co-operation during and after the NIRA, oil company representatives are expected to insist that the government formally set up some industry co-ordinating agency and give definite assurance that the co-operating companies will not be subjected to anti-trust prosecutions later.

Attorney General Jackson has indicated that Department of Justice is agreeable to some sort of plan whereby approval of co-operative plan within an industry by defense officials will relieve the participants of liability of anti-trust prosecutions, but he wants to reserve the right to check into administrative details of such a plan to see that in practice it does not involve law violations.

To study available transportation facilities, the A.P.I. fact-finding committee named a subcommittee which began its work here May 26. Subcommittee is to report back May 29 to full committee which will then consider report and go to Washington June 3 with its recommendations.

At the full committee's meeting on May 23, E. E. Soubry, representative of the British government, was present and outlined Great Britain's position as regards petroleum supplies. He also answered questions so far as war-secrets policy permitted, he said. A representative of U. S. Maritime Commission was present to discuss requisitioning of American tankers for shuttle service to aid British.

May Take More Tankers

Petroleum industry has already turned over 25 tankers for British service and has been asked to furnish another 25, which are now being assembled.

Reports in the trade early this week were that U. S. government was considering requisitioning 50 more tankers—making 100 in all. Object would be to build up storage for immediate transshipment to British tankers, many of which will be—if not now—released soon from Mediterranean service. Stocks would be built up this summer so that many U. S. tankers could be returned to domestic coastwise runs in time for heating oil season in early fall.

Other sources, however, expressed doubt as to the practicality or need for taking 50 additional coastwise tankers, and they questioned whether the plan—even if under consideration now—would be proceeded with. Tankers now have to wait in coastal ports until convoys are large enough to haul all of the products brought up in the shuttle service. These delays are intensified if convoys arrive at American ports in need of repairs. Another point suggested was lack of storage at some transshipment points for British-bound cargoes.

Independent Refiners Seek Tankers To Move Their Products from Gulf

HOUSTON, May 26.—Independent refiners at the Gulf are urging government officials to allocate tankers on a basis of future refinery operations rather than on basis of past operations or on tanker ownership. Representatives of Gulf Coast Refiners Assn. are in New York this week to press this point at meeting of American Petroleum Institute's fact-finding committee which is studying East Coast supply situation.

Meanwhile, a letter from D. W. Hovey, Republic Oil Co., president of the G. C. R. A., to U. S. Maritime Commission on tanker situation has been released here. Mr. Hovey's letter was to E. S. Land, chairman of the commission. It pointed out the Independent refiner's vital interest in matter of tanker allocations.

U. S. To Ask 100% Runs

U. S. refineries in the near future, said Mr. Hovey, will be asked to operate at capacity in order to supply the ordinary and domestic demand for products, as well as the demand for defense needs. In spite of this, Independent refiners are being forced to curtail runs because of difficulty in obtaining tanker transportation and uncertainty as to future in this regard.

Mr. Hovey's letter also pointed out that Independent Gulf Coast refiners had operated at 65% of capacity during 1940 as compared with a 90.2% operations rate by plants of major or integrated companies at the Gulf.

Tanker Needs Stated

On basis of operations at 60% of capacity during first 3 months of 1941, Independent refiners at the Gulf required 35 tanker loadings per month, according to argument that G. C. R. A. representative is urging at New York meeting. On a basis of 100% operations, 50 to 60 tanker loadings per month would be required.

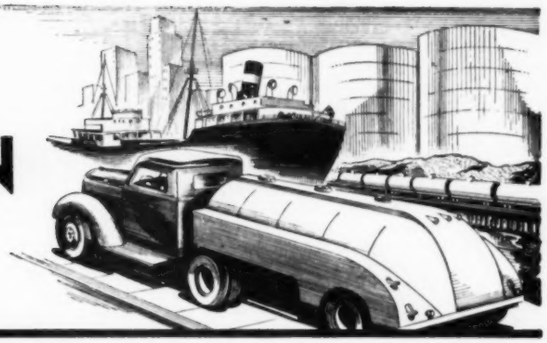
If tankers are not made available to Gulf Coast refiners, then needed refining facilities may remain idle in the emergency when sorely needed, the G. C. R. A. argued.

Plantation Orders Steel for Pipeline

NPN News Bureau

NEW YORK, May 24.—Anticipating federal legislation granting right of eminent domain to the pipeline companies constructing lines on behalf of national defense, announcement was made this week that the Plantation Pipe Line Co., jointly owned by Standard Oil Cos. of New Jersey and Kentucky and the Shell Union Oil Corp., had placed orders for 120,000 tons of steel pipe for the proposed 12¾-in. gasoline line from Baton Rouge, La. to Greensboro, N. C.

OIL TRANSPORTATION



Tanker Diversion May Cut Markets For Texas Output

Special to NPN

AUSTIN, May 24. — Sudden requisition of oil tankers for service to Britain has brought consternation to Texas oil men, who see a possibility that the world's biggest oil producing area may have its markets cut sharply due to lack of transportation.

One immediate reaction was a resolution passer by the Texas legislature, asking Congress to consider the advisability of using idle railroad tank cars to transport Texas crude to Eastern markets until a pipeline can be built.

Texas Railroad Commissioner Jerry Sadler told NPN that all the tank cars in the United States "would not be a drop in the bucket" if they had to be depended upon to transport Texas oil output.

Allowable Cut

Salt on the wounds of the oil men and Railroad Commission was a Bureau of Mines estimate for June, received after the statewide proration hearing was held, which cut Texas 10,000 bbls. daily from May allowable. Some producers observed bitterly that other states had their estimates increased as much as 30,000 bbls. daily.

Commissioner Sadler, however, said that the Texas oil order for June which will be released during the week of May 26-31, will abide by the Bureau estimate, as has been the policy of the Commission.

Might Wreck Markets

They recall significantly that the Senate's continued refusal to take up the bill, or even one extending the life of present laws for 2 more years, may have something to do with it.

The legislature could, by allowing the proration laws to expire Aug. 31, take the lid off the giant Texas crude reserves and wreck oil markets from here to Shanghai. It is believed, however, that the specter of federal control will forestall any such action.

Bike-Riding Easterners Viewed by Sadler

Special to N. P. N.

AUSTIN, May 24. — When Texas Railroad Commissioner Jerry Sadler was asked what he thought about Harry Sinclair's prediction to stockholders this week that Easterners may have to put up their cars and get out their bicycles, he observed sourly:

"My answer to that is this —I don't know anybody in his organization who can ride a bicycle."

Industry Studies Tax Amortization

WASHINGTON, May 24—All applications from oil industry for special 5-year tax amortization will be considered individually on their merits, but those most likely to receive favorable consideration will cover such new plant facilities as productive capacity for 100–octane aviation gasoline, toluene, butadiene, tankers, pipelines and transportation generally to the East Coast.

List of new facilities less apt to be granted the 5-year amortization would include new capacity for production of motor gasoline and lubricating oils, and drilling projects.

Steel Conservation Seen as Necessity To Build Pipelines

WASHINGTON, May 27.— Savings of steel wherever possible in the oil industry are desirable, in view of fact that large amounts would be required for several major pipeline projects now being given serious consideration by the government, said R. E. McConnell, chief of Office of Production Management's Conservation Section after conference today with representatives of state regulatory bodies and Interstate Oil Compact Commission on possibilities of conserving steel in oil production as a defense measure.

East Coast Transport Needs Reviewed by Cole Oil Group

NPN News Bureau

WASHINGTON, May 24 — Supporting its recommendation that "this situation is serious and requires an immediate solution at the hands of Congress" by enactment of legislation to clear the way for gasoline pipelines into the Southeast, the congressional oil investigating committee has filed a report giving a detailed, up-to-date background of East Coast oil transportation and estimated demand for 1941. Report was signed by Reps. W. P. Cole, Jr., chairman, Clarence F. Lea, Edward A. Kelly, Charles A. Wolverton and Pehr G. Holmes.

Pertinent text of the Cole committee's report, follows:

From Florida to Maine, water transportation provides virtually the entire supply of petroleum used along the Atlantic Coast. One-eighth of the total is consumed by the area south of Hatteras and seven-eighths by the area north of Hatteras. Western Pennsylvania and New York supply a very small part of the total consumption, and this is the only local contribution to the large consumption in this area. It will be immediately admitted, therefore, that the supplying of oil to the Atlantic Coast presents a problem which is essentially one of transportation. A few pipelines of the large number now in operation in the United States make their way into our Atlantic Seaboard area, but not more than 4 per cent of the total demand is supplied by such lines.

Oil tankers, or oilers as they are called by the Navy, about which we hear so much at this time, deliver each day of the year to ports on the Atlantic Seaboard about 550,000 barrels of crude oil; 400,000 barrels of domestic, industrial, and commercial fuel oils; nearly 350,000 barrels of gasoline; 75,000 barrels of kerosine; and smaller amounts of lubricant and miscellaneous oils.

During 1940, nearly 1,400,000 barrels of crude oil and petroleum products were delivered daily to Atlantic Coast ports and it is expected that 1941 needs will require a daily delivery of at least 1,500,000 barrels. Forty per cent of this total is crude oil which is delivered to refining plants near Marcus Hook, Pa., Bayonne, N. J., and, to a lesser extent, New England and other Atlantic Coast ports. Sixty per cent is received in finished form, ready for consumption upon delivery. Refineries along the Louisiana and Texas Gulf Coast are the principal source of these finished petroleum products. Of the total Atlantic Coast supply of crude oil and refined products, about 83 per cent has been received from Gulf Coast ports, 14 per cent from nearby foreign ports, 1 per cent from California and the remaining 2 per cent by land. If these percentages remain constant during 1941, and if, as anticipated, a daily supply of 1,500,000 barrels will be required, the domestic tanker fleet operating between the Gulf Coast and Atlantic Coast ports will be called upon to deliver 83 per cent of the total, or approximately 1,250,000 barrels a day. Barge shipments from Gulf Coast to South Atlantic ports, including the West Coast of Florida, contribute only 20,000 barrels daily of this total.

Petroleum statistics generally assume such astronomical dimensions that it is difficult to reduce them to terms which come within the experience of those who are purchasers of oil products, a few gallons at a time. For instance, at a daily rate of 1,250,000 barrels, it is evident that at least 450,000,000 barrels of oil should be shipped this year by tankers from Gulf Coast to Atlantic Coast ports. That total, however, must be broken down if it is to be understood in terms of transportation. The average tanker will carry about 87,000 barrels per voyage; hence, the delivery of 450,000,000 barrels during the year will require about 5,200 loadings, an average of about 100 loadings each week or 14 each day. If 14 tankers are to sail each day, a tanker must be loaded and ready to leave some Gulf Coast port each 100 minutes throughout the year.

Although the majority of our present tankers are old and slow, recent additions to the fleet have been of larger size and faster. Each such addition

increases the average speed of the entire fleet. In addition, particular attention has been given to reducing the time consumed in loading and unloading. The net result of these changes and increased efficiencies is that our present tanker fleet now can make about 20 round trips a year between Gulf Coast and Atlantic Coast ports, which they do with the regularity of a ferry service. Each vessel on the average can be expected to move about 1,700,000 barrels in the 20 round trips. At this rate it would require a domestic fleet of 260 tankers engaged in this service to move 450,000,000 barrels from Gulf Coast to Atlantic Coast ports during the year.

It should be recognized also that where movements of such magnitude are involved, delays or losses which may appear insignificant when expressed as a percentage become surprisingly important when the effect on deliveries of such delays or losses is translated into actual quantities of oil. A delay or loss of only 15 per cent would reduce annual deliveries by 67,000,000 barrels which is more oil than is now held in storage on the Atlantic Coast.

Although calculations show the need for 260 tankers during 1941 in continuous operation between Gulf Coast and Atlantic Coast ports, the record so far this year shows that such a level has not been maintained. The record shows that 272 tankers were engaged in this service during January of this year, 260 in February, 239 in March, and 253 in April. As a consequence, deliveries of oil to Atlantic Coast ports so far this year have not been equal to the demand and it has been necessary to draw upon the oil held in storage along the Atlantic Coast. Reports of the Department of the Interior show that Atlantic Coast stocks of crude oil and petroleum products were reduced during the first quarter of 1941 by 11,684,000 barrels.

If conditions had continued normal, it is quite probable that the American-flag tanker fleet, with the addition of such new ships as might be delivered this year, would have been able to transport the oil which will be needed on the Atlantic Coast this year, although that accomplishment would have required the continuous operation of the fleet throughout the year and might have involved some draft on stocks. Other and newer demands, however, have been placed upon our tanker fleet. The situation became critical on May 1, 1941, when the Maritime Commission, in response to the President's call, asked the tanker owners to co-operate by allocating 50 tankers to be used in what is described as a shuttle service between Caribbean or Gulf Coast ports and United States ports north of Hatteras, where the cargoes are turned over to foreign-flag boats for the voyage across the Atlantic. The tanker owners responded promptly and agreed immediately to allot 25 of their present tankers to this service, with arrangements for the transfer of the second 25 boats to be made subsequently. The Maritime Commission now has notified the tanker owners that the second 25 boats will be needed immediately. Of the first 25 tankers which now are being transferred to this shuttle service, 20 are being taken from the Gulf Coast to the Atlantic Coast trade, two from the Pacific Coast and three from the Atlantic foreign service.

It is evident that the first transfer of 25 tankers already is having an effect upon our domestic affairs. One company, within the past few days, has chartered a foreign-flag tanker for use between Venezuela and the North Atlantic at a rate of 80 cents per barrel, which is 30 cents per barrel higher than the previous rate. It is reported also that some domestic tanker owners are asking a similar charter rate for American-flag tankers in the Gulf to Atlantic trade. Sales of fuel oil and gasoline now are being made in New York and Boston at prices which are higher than those which prevailed before the transfer of these vessels.

The transfer of the second group of tankers will cut deeper into the Gulf to Atlantic fleet. Eighty per cent of our American-flag tankers normally operate in that service; hence, it is that service which must be affected most seriously by these transfers. The net effect of these transfers probably will be to reduce the fleet in this service to about 210 ships or 50 less than the 260 tankers needed.

It is obvious that other means of moving oil to the Atlantic Coast must be provided without delay if we are to avoid the higher prices and possibly the restriction of oil consumption to essential uses, which are certain to follow this contraction of our customary transportation facilities. The minimum requirement for such supplemental transportation is approximately 300,000 barrels daily or, roughly, one-fourth of the anticipated consumption in the Atlantic Coast area during the present year. A definite effort is being made at present to utilize existing pipeline and rail facilities to the fullest possible extent, but such changes can only add the proverbial "drop in the bucket". The problem is that of providing new ways of shipping about 100 million barrels of oil to the Atlantic Coast this year and that cannot be done unless additional pipelines of large capacity are built immediately.

As hereinbefore stated, considerable attention was given during our recent hearings to the controversy which resulted when two companies endeavored to build gasoline pipelines in the Southeastern States. The Bill which we are introducing today does not have that situation solely in mind. It is aimed at the broader national picture and is designed to give the support of the Federal Government to the pipeline construction which is necessary for the national defense. The gasoline lines in the Southeastern States, when completed, may be able to deliver up to 60,000 barrels of gasoline daily into the Atlantic Coast area, but even that accomplishment would leave nearly 250,000 additional barrels of oil for the transportation of which pipeline facilities must be provided. The projects which have been proposed in this connection are crude oil lines of large capacity, designed to transport crude oil from the producing fields of the Mid-Continent and Southwest to the principal refining centers of the Atlantic Coast. In all discussions which have been had as to the laying of these lines, it has been evident that the strong support of the Federal Government is necessary in obtaining rights-of-way, priorities on material and equipment, and other related matters.

Will it be possible to complete these pipelines in time to avoid a crisis in the present serious situation? That is a question which cannot now be answered. The time taken to build a pipeline depends largely upon the difficulties encountered in obtaining rights-of-way, delays which may occur in the manufacture of the pipe and its delivery to the points where it is needed, and the number of crews which are employed in laying the line after the pipe has been delivered. The distances to be traveled range from 900 to 1,300 miles, depending upon the routes which may be selected, and the cost will run from $40,000,000 to $60,000,000. It may take from three months to six months to complete such lines and any delays which intervene before a start can be made must necessarily postpone to that extent the date of final completion.

If those lines are built, and if the new tankers which are under construction are completed on schedule, we probably will close the year in a fairly satisfactory position with respect to oil transportation. Our Sub-Committee had the privilege of visiting the Bethlehem shipyards in Baltimore, and saw the new things which are being done in tanker construction. We have in mind particularly the new method of ship construction whereby the tankers are built separately in sections and then brought together and welded in final form. By this means and other comparable efficiencies, a tanker now may be built in from 4½ to 5 months as compared with the former operation which took approximately twice as long. Approximately 149 tankers now are under construction or contract in American yards but delivery dates on these vessels probably extend over the next two or three years and the most that may be expected in the immediate future is the delivery of approximately two finished boats per month.

Sees 'Two-fold' Problem in Mid-West Through Tank Car Diversion to East

NPN News Bureau

CHICAGO, May 27.—A two-fold fuel oil supply problem in the Mid-West, brought about by diversion of tank cars for movement to the East Coast, was seen as an actuality for the future by G. J. Le Pine, Trans American Petroleum Co., in a speech here today before the National Assn. of Purchasing Agents.

"To you gentlemen interested in fuel oil, may I suggest that you do your utmost to contract with a reliable supplier, set your requirements at the maximum or higher to assure as far as possible an adequate supply, and take it at any price within reason," Mr. Le Pine said.

Citing requisition of 50 tankers from coastwise trade for British "shuttle-service", Mr. Le Pine pointed out that pipelines and tank cars will be called upon to meet this deficiency in transportation. Pipelines, however, are already carrying capacity loads and while new lines are being built and others planned, "they cannot put them in overnight," he said, adding that railroads, meanwhile, will have to bear the burden.

Sees Car Shortage

"The railroads claim they can handle the increased business, but as railroad traffic increases, the movement of freight naturally slows up, lengthening the transit period of the car. And tank cars aren't as plentiful as they seemed to be a year ago," the speaker observed.

"Today, the scarcity of cars for lease is very pronounced," he continued. "Possibly the refiners with rare foresight took on extra cars to be prepared, wiping out the surplus of empty tanks, or possibly it is an honest-to-goodness shortage. We know of one big car manufacturer who is building new tank cars for the first time in a number of years. Most of the tank cars now in use have been in service for a long period, but due to regular inspection, they are in good shape.

Tank Car Diversion

"But suppose that we do have enough cars for an abnormal demand in the territory normally served by tank car shipments, and along comes the government and requisitions so many cars from each refiner for service to the East Coast. Then, we have a two-fold problem—shortage of cars to serve the normal market and tightening up in supply due to material being diverted from its normal market. This brings up a serious problem and one that requires deep consideration as it will be an actuality in the very near future."

THE EDITOR'S PAGE

Readers Comments and Opinions will be much Appreciated by—WARREN C. PLATT, Editor and Publisher. Penton Building, Cleveland O.

Let There be No SECRETS—as befits a True Democracy

As the oil industry approaches more intimate relations with the national government because of the war, it is most sincerely to be hoped that all oil men, and particularly the leaders of the oil industry, will not forget the lessons that should have been learned from such intimate contact during the NRA code days.

Undoubtedly the most important of those lessons is that this, still being a free country, all members of the oil industry are entitled to know just as much about what is going on in connection with government relationship as are the industry's leaders, barring military secrets.

As long as this is a democratic nation, and we believe it always will be one, its people and the members of any industry are entitled to the facts and all the facts because each individual has as much to say about what will be done as any other individual and elected officers are only supposed to be servants of the people. Right now there is a feeling abroad in the land that the citizens are not getting the facts about the war and yet they are being scolded for not being "awake to the real situation," not "appreciating the crisis" and all the rest of such admonitions.

The time for a national oil war committee may be near. The recent appointment by the API of a committee to investigate the facts as to how best to supply the eastern sea coast, because of transportation shortages, may be the forerunner of such a war committee for events are moving fast.

Whoever the industry's leaders are who may be selected to work with the government, they will be free citizens representing a free industry, and they do not have to submit to any bullying or orders for secrecy other than for real military reasons from any public official no matter who that official may be.

The P. & C. Committee, in connection with the code, submitted to the censorship imposed by the President's Petroleum Administrator. Matters of the most vital importance to every man in the oil industry were considered and even decided within the secrecy of that committee. The plan was not to give the rest of the industry any information about them whatsoever until such information as he saw fit was released to the industry by the Petroleum Administrator and when he saw fit—if at all. Such a vital matter as fixing the industry's prices was kept cooped up in that committee under secrecy orders from the Petroleum Administrator and the industry was to have been given no part in their consideration until orders putting them into effect had actually been issued. NATIONAL PETROLEUM NEWS was fortunate enough to get complete copy of the proposed price-fixing plan and broke up that scheme by publishing it ahead of time much to the ire of the Petroleum Administrator and some of the committee.

Whoever may be selected to represent the oil industry during this war will be picked because they represent some important part of the industry, because they can speak for or give advice and counsel on behalf of others in the industry who cannot be present. Even though these oil men have been picked to "advise the president", as was said during the code fiasco, they still are speaking for and representing others in the industry and those persons out in the industry are entitled to know what they are saying on their behalf. And these outside oil people are entitled to know what their representatives are saying at the time they are saying it, and not after some government official has secreted the information and then edited it to suit his own ends.

Every man who thus represents the oil industry should feel free to talk with whomever he chooses at any time about all matters—except true military secrets—that he is discussing with the government. And to make sure that all in the industry know what is going on, every one of these leaders should not only feel free, but he should actually make known his ideas, his advice and report to the industry freely through his own statements to and through the oil press. Each man should not feel it necessary to withhold his own statements until the discussions have been sifted through some formal "publicity release."

It also is highly essential that the leaders who may be selected, see that units of the industry directly dealing with the problems of prosecuting a war, or who are affected by those problems, are truly and fully represented. During the code period, one branch of the industry was conspicuous for its absence from the P. & C. Committee. That branch constituted the Independent oil jobbers. Protests against this lack of proper representation were unavailing. The impression was decidedly given that the code committee was a closed club of the major oil companies, oil producers, and the Independent refiners. When a retailer was finally hoisted into the club by some unknown power, it only made a burlesque of the marketing representation.

Today in this war effort, Independent jobbers may not have much to say about supplies to Army and Navy, to war factories and to Great Britain, but these jobbers are the ones who will furnish almost half the gasoline to those who work in factory and powder plant and on the farm, and their businesses will be vitally affected. They therefore are entitled to fair representation on any national war committee, a representation that will accurately reflect their strength in all of the score of state jobbers associations.

Full publicity—no secrets—and fair representation will go a long way toward protecting all in the industry against any double-crossing by the administration such as marked the Madison oil case. When men get together to further a joint enterprise with their government, they should feel free to go the limit on behalf of the government's needs, entirely within any fair conception of the anti-trust law. These men representing industry should feel free to place confidence in the spoken and written words of government officers.

Over close co-operation within an industry and with government today, hang the words of the U. S. Supreme Court, as spoken by its ranking New Deal member—in deciding the Madison Oil case, that whatever discussion or understanding that affects or might affect price, no matter in what way, no matter how little and no matter if no "monopoly" is effected, is a violation of the Sherman Anti-Trust Act.

And over any close co-operation with government today is the record of the New Deal in not only attacking the oil industry's conduct under the code but, worse yet, in doing its very best to try and keep all reference to the code and the government's co-operation in that conduct, away from judge and jury.

Now the Department of Justice says it will "clear" all acts of co-operation that are approved by various officials, and thus "protect" the co-operators from prosecution. Government officials "approved" the acts attacked in the Madison oil case

but these the Department of Justice did not see fit to "recognize" and "to clear."

It is pretty much the same Department of Justice today and it is pretty much the same New Deal. What evidence is there that industry should put confidence in the government's "word" today?

But the oil industry, like all industry, will do its full part in prosecuting any war, regardless of the presence in government of any people of bad faith. The country and victory over its enemies come first; the people of bad faith can be settled with later. However, any such people would probably get the immediate attention of the Dies Committee and the facts would be presented to the public for it to judge.

We submit that the best defense that the oil industry and all industry has against any of bad faith in the national administration, or Fifth Columnist anywhere else, is the fullest possible publicity of what is going on within the industry and with the federal government all the time.

That complete publicity, with fair representation from all branches of the oil industry, is the best way to permit all American citizens to do their full share toward whatever we may have to do to hold true democracy and its free civilization for the world.

Oil 'Execs' Renew Friendships at Tulsa Meeting of A.P.I.

NPN News Bureau

TULSA, May 24. — During American Petroleum Institute's annual mid-year meeting held here this week, many prominent oil executives had the opportunity of renewing old acquaintances and making new ones. NPN, changing its role of reporter to photographer, presents here a few informal shots taken during the four-day conclave.

Subjects relating to defense of the U. S. and aid to Great Britain were foremost in the oil men's discussion. (For details about this meeting, see NPN, May 21, 1941, pages 7, 8 and 14).

ABOVE—Reading from left to right are George A. Hill, Jr., Houston, president, Houston Oil Co. of Texas and production vice president for A.P.I.; Roy B. Jones, Wichita Falls, president Panhandle Refining Co.; E. R. Brown, Dallas, board chairman, Magnolia Pipe Line Co. and official of Socony-Vacuum Oil Co.; D. E. Buchanan, Tulsa, president Hanlon-Buchanan and chairman of A.P.I.'s entertainment committee; C. L. Henderson, Wichita, president Vickers Petroleum Co., and R. W. McDowell, Tulsa, marketing vice-president Mid-Continent Petroleum Corp.

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LEFT—Greeting two of his fellow Texans, W. R. Boyd, Jr., A.P.I.'s executive vice-president and "citizen of Teague, Tex.," is shown here embracing John R. Suman, right, Houston, Humble Oil & Refining Co. vice-president and E. DeGolyer, Dallas, University of Texas

Figuring out their next meeting here are 3 A.P.I. directors—Dana Hogan, Los Angeles, Hogan Petroleum Co.; R. L. Wheelock, Corsicana, Tex., Wheelock & Collins; and E. L. Smith, Dallas producer

From left to right, Hugh W. Field, Philadelphia, Atlantic Refining Co.; Roy B. Jones, Wichita Falls, president Panhandle Refining Co. and Dr. R. P. Anderson, New York City, of the A.P.I.'s technical staff, discuss A.P.I.'s technical program at luncheon. Photo by Joe Strain

Get highest value from crude

Every day of the five weeks ended April 5, 1941, American motorists and American exporters bought 103,000 barrels more gasoline than they bought in the same weeks in 1940

The figures are, 1,636,000 barrels a day for the 1941 period against 1,533,000 barrels in 1940, according to the Chicago Journal of Commerce

When consumption went so high in March, where do you think it will go at the height of the motoring season?

And who will cash in on it to the best advantage?

Why, Universal licensees will

Dubbscracking and U. O. P. catalytic polymerization make the highest yield of high octane gasoline from any kind of crude you run

And other processes available to all refiners, through Universal, make special products never before produced commercially from petroleum —products vital for national defense

Universal processes realize the highest values from every barrel of crude oil

Aren't Universal licensees sitting pretty?

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

Transportation Bottlenecks Viewed in East and Midwest

NPN News Bureau

TULSA, May 24.—Concerned with efficient and adequate distribution of crude oil to eastern refineries and petroleum products to markets, efforts of American Petroleum Institute directors, oil states governors and oil men attending A.P.I's mid-year meeting here this week were focused on possible solutions to conditions that might lead to transportation bottlenecks within the industry.

It was acknowledged at the meetings that the possible bottleneck brought about by government requisition of coastwise tankers was not a shortcoming of the industry, but that solution would probably rest within the oil province.

Plan Distribution

A.P.I. directors discussed the general situation involving national defense and potential contributions of the industry. Preliminary work of the Institute's fact-finding committee in formulating plans for keeping supplies of petroleum and its products flowing to Atlantic coast cities despite shortage of tank ships was reported discussed. Committee is said to be pushing through to completion a survey of petroleum transportation with the thought of developing means and methods whereby every section of the country would receive its necessary quota. This plan would involve use of tankers, barges, tank cars, tank trucks and pipelines. While discussion of the situation by the directorate was thorough, it took no formal action.

Gov. Phillips of Oklahoma, chairman of the Interstate Oil Compact Commission, offered the industry his services and those of Kansas' Gov. Ratner in efforts to preclude "possible bottlenecks" brought about by what Gov. Phillips called "ill-considered regulation" from Washington. He had just discussed possible transportation tie-up as result of the government requisitioning tankers formerly used in coastwise hauling of petroleum from the Gulf Coast to Atlantic ports.

Pipeline Capacity Hiked

Looking to his own state, the Kansas governor late last week inaugurated an investigation of transportation facilities in Kansas and instructed his corporation commission to discuss means of overcoming bottlenecks in oil transportation should they develop. While the survey is far from complete, Kansas' crude pipeline capacity will be increased 36,000 bbls. daily, it was learned. Increases will be accomplished through looping of lines and increases in capacity of present facilities.

Gov. Ratner pointed out that Kansas pipelines now have a capacity of about 242,000 bbls. of crude daily and that Kansas' allowable crude production is rapidly approaching its pipeline capacity.

Interstate crude lines leading from the Southwest to the Mid-West and East Coast are operating "at about capacity," observers say. Throughput might be stepped up slightly in some cases if certain facilities around St. Louis and between Illinois and the East Coast are expanded. By the middle of the year, approximately 35,000 bbls. daily of southwestern crude will be moving by pipeline directly to Atlantic coast refineries. This volume may be supplemented later by construction of additional pipelines, it was believed. Twenty-inch lines, each capable of delivering about 208,000 bbls. of crude daily from the Southwest to East Coast, are now under construction, according to reports.

Oil Burner Industry Hits Proposals to Ration Fuel

NPN News Bureau

NEW YORK, May 26—Economies gained through increasing the efficiency of oil burners now in operation could effect savings which would make curtailment of production and sales of burners unnecessary, spokesmen of the oil burner industry state in answer to threats of government restriction.

Raising the efficiency of all existing oil burners would make a 25-30% saving in fuel, or 12 to 15,000,000 bbls. in the East Coast area, said R. M. Sherman, Hartford, Conn., president of Silent Glow Oil Burner Corp. and chairman of a special committee appointed by the Oil Burner Institute to study the problem.

Average burner installed 2 years ago shows a 5% flue gas analysis, M. Sherman said, adding that raising this efficiency to CS 75-39 government commercial standards requirement would effect a 25 to 30% saving in fuel.

While no definite program for increasing efficiency of burners already installed has been formulated, first move would be to bring all new burners up to commercial standards. Several possibilities are presented in attempting to improve existing burners.

One suggestion concerned pooling inspection service facilities of manufacturers and oil companies, and co-ordinating manufacturers' selling units to stress savings and efficiency, Mr. Sherman said, citing possibility that an advertising fund might be set up to stress this theme.

Oil burner industry representatives met here May 19 at request of the government and another meeting is scheduled with defense officials this week. Meeting took a united stand against restriction of production and sales, spokesmen stating that restriction in the area affected by the tanker shortage would not solve the problem.

"If you restrict home burner sales for purposes of oil savings, certainly motor fuel and residual fuel oil, which constitute the greatest volume of sales in the East Coast territory must be restricted also," L. M. Fanning, O.B.I. consultant said.

More Price Talks On Oil Scheduled

NPN News Bureau

WASHINGTON, May 26. — Prices of Pennsylvania lubricating oils and gasoline in the Mid-West marketing area were mentioned by the Office of Price Administration and Civilian Supply today as possible subjects of future oil price conferences.

Further price conferences will be scheduled as price rises occur, OPACS said, adding it hopes eventually to hold some of these in the field rather than in Washington.

Next on list is a meeting between government price officials and Mid-Continent and Texas producers which, OPACS said, will be held in Washington as soon as possible—probably next week. Pacific Coast oil price conference will follow.

Madison Retrials Uncertain

Special to NPN

MADISON, Wis., May 27.—Likelihood of a new trial for nine remaining defendants in government's price fixing conspiracy case against major oil companies remained uncertain today, but a showdown of some nature was indicated for next Monday in Federal District Court, Madison, Wis.

See Canadian 'Gas' Shortage

Special to NPN

OTTAWA, May 26.—Adverse trend of the war in the Mediterranean, followed by the requisitioning of 50 tankers by President Roosevelt from the North Atlantic area for transfer to Britain in order to carry oil across the Atlantic to that country, threatens a gasoline shortage in Canada this summer, according to reports here today.

Every effort is being made to avoid this so that the American tourist traffic, estimated variously to bring in from $200,000,000 to $300,000,000 U. S. dollars into Canada annually, will not be affected. First move to meet this situation is the announcement from Imperial Oil, Ltd. and its parent company, Standard Oil Co. (New Jersey), will build immediately a 250-mile pipeline from Portland, Me. to Montreal. It is estimated the pipeline will permit the use of 7 tankers for other purposes.

With reference to the threatened shortage of gasoline, George R. Cottrelle, Canadian oil controller, said: "Our viewpoint for the moment must be: first, to supply that which is required by the United Kingdom; and secondly, that which is required for the war effort in Canada. The public must come third."

Canada U. S. Pipeline

Mr. Cottrelle said the new pipeline would reduce the round trip of ocean tankers supplying the Montreal refineries by approximately 2000 miles.

It is understood the 10,000 bbls. which Imperial Oil's refinery at Sarnia has been receiving daily from International Petroleum via tanker to Marcus Hook, Pa., and thence by pipeline to Sarnia has already been discontinued and replaced by Mid-Continent crude received via pipeline from Cygnet, Ohio, which was used before the Venezuelan supply was developed towards the end of last year. International Petroleum has found a ready market in Britain for the crude thus shut off from Canada.

To Supply 4 Companies

The new pipeline to be built from Portland will supply all 4 companies refining at Montreal; Imperial, British American, McColl-Frontenac and Shell. Pipeline, it is understood, will be 12-in. diameter and will carry a minimum flow of 60,000 bbls. daily for 200 days summer operation and 35,000 bbls. daily for 160 days the rest of the year, having thus an annual capacity of 18,000,000 bbls.

Leading Crude Purchasers Announce Higher Postings

NPN News Bureau

CLEVELAND, May 27.—Rising tide of crude oil prices spread the past week with higher postings announced by leading purchasers in nearly all of the country's important producing fields.

California prices were up 10c per barrel. Humble Oil & Refining Co., posting prices in more Texas fields than any other large buyer, advanced its postings 7 to 10c per bbl. Pennsylvania grade prices were up 15c; Louisiana and Arkansas prices, 10c. Prices were up 10c in Rocky Mountain fields. All of the larger buyers met the 10c increase posted May 19 by Shell Oil Co., Inc. in Illinois. The 10c Illinois advance was extended to Kentucky by buyers in that area.

CLEVELAND, May 27—Leading purchasers of Pennsylvania grade crudes posted 15c advances in their prices on May 21, according to announcements from the various companies.

Tide Water Associated Oil Co., Joseph Seep Purchasing Agency, and Valvoline Pipe Lines posted $2.55 for Bradford-Allegany oil. Seep Agency also posted $2.20 for oil in Southwest Penna. lines, and $2.14 for oil in Eureka lines. The Pennzoil Co. posted prices ranging from $2.43 to $2.48 per bbl. for oil in National Transit lines. Valvoline posted $2.10 for Buckeye (Ohio).

ASHLAND, Ky., May 21—Ashland Oil & Transportation Co. today advanced its prices for Somerset, Ky. crudes 10c per bbl., to $1.32 for Big Sandy River production, and $1.40 for Kentucky River production, according to company announcement.

OWENSBORO, Ky., May 21—Owensboro-Ashland Co. today announced 10c advance to $1.32 per bbl. in price it will pay for western Kentucky crude.

FINDLAY, O., May 22—The Ohio Oil Co. today advanced its prices for Rocky Mountain crudes 10c per bbl., to $1.00 for Elk Basin and Grass Creek light, $0.92 for Lance Creek, and $1.15 for Rock Creek, a company announcement said.

CLEVELAND, May 27—Joseph Seep Purchasing Agency today announced 7c increase to $1.31 per bbl. in its price for Corning, O. crude.

HOUSTON, May 21—Humble Oil & Refining Co. today advanced its crude price postings 10c per barrel in all Texas and New Mexico fields, except Talco and Hawkins, Tex. up 7c, according to a company announcement.

BATON ROUGE, May 22—Standard Oil Co. of Louisiana today advanced its crude price postings 10c per barrel in Louisiana and Arkansas fields, company announcement said. New posting of Lisbon Distillate at $1.20 per bbl. also was announced.

Crude Posting Hikes of 10c a Barrel Announced in Southwest, Midcontinent

DALLAS, May 24.—Magnolia Petroleum Co. late this week announced, effective May 21, 10c per bbl. advances in its posted prices for crude it buys in the following areas: Hayesville, Cotton Valley, Lockport, Cameron Meadow, West Gueydan and Rodessa district, La.; Miller County, Ark.; Oklahoma; North, North Central, East, Panhandle, and West Texas; Darst Creek, Luling, Lytton Springs, Cleveland-Liberty County, Tomball, Mirando, Cass and Panola Counties, Tex., Lea County, New Mexico and Illinois Basin. An advance of 7c was posted by Magnolia for Talco crude, to 79c per bbl.

Magnolia's Texas Panhandle price schedule begins at 88c for below 29 gravity and increases 2c for each degree of gravity to 40 and above at $1.12.

TULSA, May 26. — Effective May 20, Pure Oil Co. announced a 10c advance in its posted prices for Oklahoma crude. New schedule begins at 93c for below 25 and increases 2c for each degree of gravity to $1.25 for 40 and above. One exception is the Cumberland field of southern Oklahoma, where Pure posted flat price of $1.12.

NORTH KANSAS CITY—Cooperative Pipe Line Assn. reports that on May 20 it advanced its purchase price for Kansas crudes 10c.

Franklin Hikes Crudes

TULSA — Ben Franklin Refining Co. on May 20 advanced its posted prices for Healdton, Oscar, Spring and Seay, southern Oklahoma crudes 10c. New schedule begins with below 21 gravity at 70c and increases 3c for each degree of gravity to 30-30.9 gravity at $1; beginning with 30 gravity oil at $1, new price advances 2c for each degree of gravity to 40 and above at $1.20.

HOUSTON, May 26. — Effective May 21, Pan American Production Co. increased its prices for Hastings, South Houston and East Texas crudes 10c per bbl.; Cayuga, Tex., 5c. This company assumed purchase of crude in lieu of Pan American Pipeline Co., effective May 1, according to announcement.

TULSA, May 26. — Stanolind Oil & Gas Co. advanced its posted prices 10c for most Texas crudes it buys on May 21, and on May 20 posted 10c hikes in its postings for North Texas, Iles, Colo., and most Wyoming crudes it buys. Exceptions were Frannie (light and heavy), Grass Creek (heavy) and Hamilton Dome crudes, up 5c.

Conoco Advances 10c

PONCA CITY, May 26.—Effective May 21, Continental Oil Co. announced 10c advances in its crude prices in North Texas; the Texas Panhandle; Eddy County, N. M.; Abbeville, Tepetate, Ville Platte and Lake Charles, La.; and all southwest Texas fields. The advance announced is in addition to the adjustment effective May 19, made on price in the Clara Driscoll, Alfred and Magnolia City areas. Continental had previously posted a 10c advance, effective May 19, on Oklahoma and Kansas crudes.

HOUSTON, May 26. — The Texas Co. announced today a 10c per bbl. advance in its posted prices for Oklahoma and Kansas crudes effective May 19 and for Illinois, Texas and New Mexico oils, May 21. One exception is Texas Panhandle, where Texaco posted a 13c advance, with new schedule beginning at $1.03 for 34-34.9 gravity and increasing 2c per degree of gravity to 40 and above at $1.15.

TULSA, May 26. — Standard Oil Co. of Indiana, parent company of Stanolind, effective May 20, announced a 10c advance in its postings for Oklahoma and Kansas crudes.

Carter Oil Co. announced a 10c advance in its crude price postings May 20 in Oklahoma and May 21 in Louden area, Ill.

Sinclair Ups Crudes

Sinclair-Prairie Oil Marketing Co. announced 10c advances in its postings for West Texas, East Texas, Lea and Eddy, New Mexico, crudes effective May 21. On May 20 Sinclair-Prairie announced a 10 to 32c a bbl. advance in its postings for Oklahoma and Kansas crudes. Company's new schedule begins at 25-25.9 gravity at 95c and increases 2c per degree of gravity to 40 and above at $1.25.

Sinclair-Wyoming Oil Co., May 20, advanced its prices 10c for Wyoming crude it buys.

PRICES

Mid-Continent Gasoline

OKLAHOMA CITY, May 26.—Magnolia Petroleum Co. has announced that effective May 27, it will advance its tank wagon prices for all grades of gasoline and kerosine 1c per gal. at all points in Oklahoma, "to a maximum of 13.5c per gal. for third grade, 14.5c for regular, 16c for premium and 8c for kerosine, including taxes."

PONCA CITY, May 26.—Continental Oil Co. reports that effective today it advanced its tank wagon prices of all grades of gasoline and kerosine 0.5c per gal. at all so-called "normal and sub-normal" points in Oklahoma, New Mexico, West Texas, Colorado, Wyoming, Montana, Utah and southern Idaho where it markets.

* * *

Ohio Gasoline

CLEVELAND, May 27.—Standard Oil Co. of Ohio's tank car price for 72-74 octane gasoline today is 8.125c per gal., up 0.375c in less than a week. On May 23, the company announced an 0.125c increase and today an additional 0.25c increase was announced. Price is ex tax, delivered anywhere in Ohio, but subject to exceptions for local price disturbances.

CLEVELAND, May 27—Standard Oil Co. of Ohio today announced 0.5c increase in tank wagon and service station prices at Dayton, O., effective May 28. New price for X-70 (regular) to resellers will be 8.3c, with retail price at company-operated stations 11c, ex tax.

* * *

Jersey Standard Hikes Gasoline

NPN News Bureau

NEW YORK, May 26.—Standard Oil Co. of New Jersey has announced that effective May 19, its posted prices for "Esso" gasoline were advanced 1c per gal. generally in West Virginia. At the same time, "voluntary discount" of 0.85c to Parkersburg dealers was discontinued, announcement said.

In Maryland and District of Columbia on the same date, its posted gasoline prices were advanced 0.5c per gal. generally; while in Virginia, tank wagon prices were advanced 0.5c and

tank car prices 1c per gal., Jersey company said.

Tank wagon, tank car, and fair trade retail postings for "Esso" gasoline in New Jersey were advanced 0.6c per gal. effective May 20, according to the announcement.

* * *

Ohio Gasoline

CLEVELAND, May 27.—Standard of Ohio late today announced 0.5c per gal. advance in its tank wagon and service station prices for all grades of gasoline generally throughout Ohio, effective May 29.

"This general increase in the price of gasoline merely reflects the advances which occurred last week and this week in the prices of crude oil in all areas from which the company receives its crude oil," announcement said. "The company purchases practically all of its crude oil from outside sources and therefore any increase in crude oil prices is directly reflected in the costs of the company's finished products."

* * *

California Crude

LOS ANGELES, May 24.—Effective May 23, Standard Oil Co. of California announced an increase in prices it offers for its purchases of crude oil at the well. Increases, which affect both northern and southern California fields, run up to 12c per bbl.

Base price of Signal Hill 27 gravity oil has been advanced 6c to $1.15 per bbl. This is an advance of 12c per bbl. from the price prevailing for that grade from May 20, 1940 to Mar. 22, 1941, when it was advanced to $1.02 per bbl.

* * *

Michigan Crude

SAGINAW, Mich., May 27.—Bay Pipe Line Corp. today announced increased prices for Michigan crudes, effective May 27. Wise and Saginaw are up 7c to $1.44 per bbl.; Buckeye, Bentley and Kawkawlin up 7c to $1.42; Clare and Adams up 5c to $1.11 and $1.25, respectively. Bay's prices are now up 35 to 42c per bbl. from end-of-1940 postings.

* * *

Pacific Coast Gasoline

LOS ANGELES, May 26.—Standard Oil Co. of California, effective May 23, advanced its wholesale and retail prices for all grades of gasoline 0.5c throughout the Pacific Coast states, Alaska and Hawaii, according to a company announcement.

Governor's Meeting Halted By Crude Price Advances

NPN News Bureau

TULSA, May 26.—Since the purposes of the conference were accomplished by a 10c per bbl. advance in Oklahoma-Kansas crude prices early last week, Governors Ratner of Kansas and Phillips of Oklahoma called off a meeting with producers scheduled for May 21 at Tulsa to "see if we can't do something to get the crude oil price advanced to a point where it should be . . ."

Gov. Ratner stated he was pleased with the price advances announced by 3 companies 2 days prior to the date he had scheduled the conference. Since announcement of the first price advance, most other purchasers have hiked their prices 10c in the Oklahoma-Kansas areas.

Change to Tenths Effective June 1

NPN News Bureau

TULSA, May 26.—Directorate of the Petroleum Accountants Society of Oklahoma has approved a proposal to adopt on June 1 the practice of quoting oil industry prices in terms of tenths of a cent "instead of present unwieldy fractions."

In a letter captioned "June 1st Recommended For Change To Decimal Method of Pricing Refined Products," the society reviews results of a survey conducted among refineries.

"Since the response clearly indicated a substantial majority (90%) in favor of the change and a majority of those expressing preference as to a date urging that the change be made soon, the proposal to change June 1, 1941, was placed before the board of directors of the society and endorsed by it," statement said.

Letter also called on refiners to assist in making this "constructive and expense-saving change operative" and suggests that effective June 1, 1941, all quotations to customers be stated in decimals, graduated not less than tenths of cents per unit, that quotations be furnished trade publications on that basis and that in all sales contracts written after May 31, 1941, sale prices including differentials, if any, be stated in tenths of cents per unit.

New Refining Capacity

WASHINGTON, May 26.—Since the beginning of 1937, U. S. refiners have built new refining capacity of 1,383,982 bbls. a day, or 33% of the present total operating capacity of the industry, according to Bureau of Mines reports.

Policy of Texas Proration Threatened by Inactivity

Special to NPN

AUSTIN, May 26.—Two major oil bills are hanging fire in the Texas legislature this week, both receiving set-back in the Senate, despite the fact that the session may end within the next seven days.

On one hinges the whole future of Texas proration—the bill to extend the proration laws for 2 more years. Texas proration laws must be renewed at every session of the legislature, or they expire. Current laws will expire Aug. 31 unless renewed.

Opposition to re-enacting the proration laws remains somewhat of a mystery, and it is hard to pick out where it is coming from, according to reports. There is opposition, however, because the Senate on at least 2 recent occasions has declined to move the bill up out of its regular order and act on it. It has been passed by the House.

Use Bill as 'Axe'

The new bill not only renews the oil proration laws for 2 more years, but extends them indefinitely. Proponents at first were confident they could get it passed, but as adjournment grows closer, some have expressed concern over even getting the 2-year extension passed.

Commissioner Jerry Sadler told NPN, however, that he believes it will pass. "They are holding it up to use it as an axe," he said, declining, however, to say who is being axed.

The other oil law, which split the commission, is the one designed to allow the railroad commission to continue its present policy of lumping all the nominations into one pool and distributing the allocations equitably to all the Texas fields. Commissioners Sadler and Olin Culberson supported the bill, testifying that it would end the practice of selective buying.

Considerable opposition to the house-approved measure has been met, including Commissioner E. O. Thompson, who said it is unconstitutional and unnecessary.

Thompson Objects

"The present proration laws were capable of handling the big East Texas field," he wrote from Camp Bowie, where he is on active duty with the National Guard, "and they are adequate to deal with the situation now." Oil men themselves are split on the subject, the majors generally opposing it and the independent producers favoring it.

One senator charged that the bill was "communistic" and another said it penalizes the producer who has enough "get-up" to go out and get his markets.

A district court at Austin has enjoined the Railroad Commission from enforcing its proration orders where certain fields were cut in spite of the fact that the producers there had a market for their oil. Soon after Continental Oil Co. won this injunction, Gulf Oil Corp. and others filed a similar one and railroad commissioners saw their entire proration set-up threatened if higher courts sustained the decision. Mr. Sadler said the new bill is necessary, apparently, if selective buying of crude is to be curbed.

Since June order was replica of May's, Railroad Commission apparently will continue proration on state-wide basis. This formula has been enjoined by District Court but Commission has appealed and hopes to be sustained.

Sinclair Opposed To Policy Change

NPN News Bureau

NEW YORK, May 27.—Replying to inquiries as to his position regarding proposed changes in Texas proration laws, H. F. Sinclair, chairman of executive committee, Consolidated Oil Corp., declared yesterday that best solution was extension of present law for two years with addition of provisions covering condensate production, a product, which because of its increasing importance and effect on crude market, should be prorated on basis comparable to crude, he stated.

"Radical changes at this time," Sinclair continued, "would inevitably lead to litigation and while the present law may not be perfect in all respects and may not suit everybody, including myself, under all circumstances, I think the industry had better bear the ills it has than fly to others it knows not of.

"Certainly, I am not in favor of trying new yardsticks and new methods opening up an entirely new series of problems which experience indicates would have to be fought through the courts and might take years to determine.

"On practical grounds, therefore, and as a measure of expediency and preparedness in such times as these I think the best thing that can be done is to extend the present law and work out in the future the possibilities of improvement."

4 Pennsylvania Grade States Expected to Join Oil Compact

Special to NPN

HARRISBURG, May 26. — Pennsylvania's General Assembly was asked today to approve a bill authorizing this state to become a member of the Interstate Oil Compact to promote conservation of oil and gas "in this time of emergency".

If Pennsylvania approves this measure, 3 other states—New York, Ohio and West Virginia—would fall in line, says Thomas B. Wilson, Republican senator from McKean County. New York has passed a bill approving Compact membership, but will not become law until Pennsylvania passes a similar measure. (See NPN, April 23, 1941, p. 8.)

Senators Wilson and E. LeRoy Chapman, Warren County Republican from Pennsylvania's richest oil fields, introduced the measure.

Co-operate With Defense

Senator Wilson, who several months ago reported steps were being taken to interest oil producers of the state in entering the compact, said that realization of a national emergency had swung everyone in line.

"These are critical times and we are putting regulations on ourselves which we didn't want in the past so we can better cooperate in the national defense program.

"Pennsylvania is a tremendous factor in the production of lubricants and they are important to the nation in these times of the defense program. We decided we are better able to conserve oil and gas through belonging to the Compact and the bill is the answer."

Favors Joining Compact

The McKean County Senator pointed out that the Bradford District Pennsylvania Oil Producers Assn. unanimously recommended last Friday that Pennsylvania enter the pact because 9 states producing 77% of the total U. S. oil production and 90% of the output east of the Rocky Mountains are members.

The measure described the purpose of the pact to "conserve oil and gas by the prevention of physical waste thereof from any cause."

Provisions of Bill

Each state is entitled to one representative on the Interstate Oil Compact which:

"Shall have powers to recommend the co-ordination of the exercise of the police powers of the several states within several jurisdictions to promote the maximum ultimate recovery from the petroleum reserves of said states, and to recommend measures for the maximum recovery of oil and gas."

States may withdraw on 60 days notice and power to take such action would be given to the governor, who would be the state's representative on the Commission. The governor may appoint a substitute.

Objective of Compact Stated

Interstate Compact, entered into in 1935, doesn't regulate oil or gas production but simply binds the states to enact conservation laws with certain minimum provisions such as prevention of operation of any oil well with an inefficient oil-gas ratio and the drilling, spacing or operation of any well so as to bring about physical waste. There is nothing in the compact specifically requiring a member state to enact a production control law.

June Crude Allowable Hiked in California

NPN News Bureau

LOS ANGELES, May 24.—California's state crude production quota for June was increased 4000 bbls. daily by the Conservation Committee of California Oil Producers. This brought the daily allowable to 575,000 bbls. Top well allowable was held at 142 bbls. daily.

A. H. Bell was re-elected chairman of the committee, with Lloyd Williamson as first vice-president, Richard Fenton second vice-president, and William L. Hobro, secretary.

Five committeemen were elected as members-at-large: R. P. Huggins to represent the whole state; William Farrand for the Coastal district; E. B. Hall for Los Angeles Basin; Ross McCollum for San Joaquin Valley; and Richard Fenton for the stripper well operators.

L. P. St. Clair and W. R. Wardner, Jr., will continue, respectively, as administrator and assistant administrator for the committee.

NPN's Log On Oil Legislation

Oil legislative information, summarized below, is based on reports deemed reliable although NATIONAL PETROLEUM NEWS assumes no responsibility for the accuracy or completeness of this information.

Bills Introduced

Florida

S-679, Committee on Welfare
Levies excise tax on kerosine in addition to other taxes thereon with certain exemptions. To Finance and Taxation Committee.

H-1365, Lewis
Authorizes city of Fort St. Joe to levy and collect a tax not more than 1c per gal. on gasoline. To Local Calendar.

Illinois

S-588, Droste, et al
Imposes 3c per bbl. tax on persons importing oil into Illinois. Same as S-452 except tax in that bill is 5c a bbl. To Revenue Committee.

S-589, Droste, et al
Imposes tax of 3c per 1000 cu. ft. of natural gas in Illinois. Same as S-529 except that tax in that bill is 5c per 1000 cu. ft.

S-590, Droste, et al
Imposes tax of 3c per 1000 cu. ft. on persons importing gas into Illinois. Same as S-453 except tax in that bill is 5c per 1000 cu. ft.

Pennsylvania

H-1632, Leydic
Requires all loads of inflammables not to exceed 1500 gals. on any delivery from bulk plant to stations; requires bulk plants to receive supply under full fire protection specified.

H-1633, Leydic
Requires companies or individuals dealing in transportation of inflammables having fleets of trucks or trailers to carry $150,000 to $200,000 in liability insurance.

Changed Status

California

A-406, King
Defines solvents used for cleaning and dyeing. Passed Senate.

Michigan

S-346, Brake
Authorizes Public Service Commission to adopt rules and regulations and to regulate oil or gas operator or purchaser or factory or industry to take pro rata flow from wells; defines natural gas and gasoline. Passed Senate.

HCR-39, Thomson and McKay
Permits Governor to enter Interstate Oil and Gas Compacts with other states. Passed Senate.

H-290, Higgins, et al
Prescribes maximum rates chargeable for natural and artificial gas. Passed House.

H-306, Brown
Regulates operation of trucks carrying explosives and gasoline. Passed Senate.

Nebraska

Bill No. 482, Asimus
Green coloring of fuel; imposes a 5c per gal. use tax. Indefinitely postponed.

Oklahoma

H-28, Massey
Increases gross production tax on crude 2% to 7%. Killed.

H-399, Cherry
Authorizes State Board of Affairs to accept bids and let contracts for drilling oil and gas wells on state lands not heretofore leased. Passed Senate.

H-108, Daniel
Levies motor vehicle mileage taxes; provides for issuance of permit and classifies motor vehicles. Also authorizes promulgation of rules and regulations by state tax commissioner. Killed.

H-115, Bacon, et al
Authorizes tax commissioner to disclose information and statistics relating to sales of refined petroleum products and registration of autos, trucks and other motor vehicles. Killed.

H-567, Lamson
Levies excise tax of 0.1c per gal. on motor fuel. Killed.

H-477, Hughes
Authorizes State Board of Agriculture to lease lands for oil or gas or to have same drilled under contract. Passed Senate.

H-390, Whiteneck, et al
Defines liquified petroleum gases and establishes a liquefied petroleum gas department; designates state fire marshal to be ex officio liquid petroleum administrator; provides for rules and regulations, a system of licensing installers and penalties for violations. Passed Senate.

H-561, Carmichael
Levies 4c a gal. excise tax on gasoline to be paid by producer, refiner or manufacturer where manufactured in state and by distributor if outside. Killed.

S-305, Rinehart
Authorizes Board of Affairs to lease state lands under its control for oil, gas and mining purposes. Passed House.

Texas

H-942, Clark
Amends laws providing railroad commission shall limit production of crude petroleum in state to reasonable market demand. Passed House.

Approved

Delaware

H-49, Patterson
Exempts from tax gasoline used for agriculture.

Nebraska

Bill No. 470, Nebauer
Exempts from tax fuel used for farming purposes.

Oklahoma

S-306, Rinehart
Directs tax commissioner to transfer to general fund certain funds reserved for payment of refund claims for tax exempt sales of motor fuel.

H-591, Latting
Levies excise tax of 1c per gal. on special fuel in addition to all other taxes heretofore or hereafter laid on special fuels.

H-524, Latting
Increases gasoline excise tax from 4c to 5c, extra 1c to go to General Revenue Fund with no exemptions.

Texas

S-454, Kelley
Extends oil and gas mineral leases granted by the state on areas covered by coastal waters or within Gulf of Mexico.

State Legislatures Act on Oil Tax Bills

NPN News Bureau

NEW YORK, May 26.—Almost all 'oily' bills approved last week by the states' respective governors dealt directly with taxation.

Delaware and Nebraska have both enacted laws exempting from tax all gasoline or fuel used for agricultural purposes. Oklahoma will increase its gasoline excise tax from 4c to 5c, placing the additional penny in

the General Revenue Fund with no exemptions, as a result of Gov. Phillips' signature, and will also levy an excise tax of 1c per gal. on "special" fuel in addition to all other taxes heretofore or hereafter laid on such fuels. These "special" fuels are explained as any fuels used to propel motor vehicles on public highways other than gasoline, and more especially diesel fuels. Texas will extend its oil and gas mineral leases granted by the state on areas covered by coastal waters or within the Gulf of Mexico.

With Ohio expected to adjourn sine die shortly, much speculation is abroad as to the fate of 2 Ohio measures dealing with tank trucks, one of which would require 2 men to each truck and the other would ban these vehicles from public highways over week-ends. With close of session rapidly nearing it seems ilkely, from all indications, that the bill will die in committee.

Measures which have actually been defeated during the past several days include Oklahome H-28 which sought to increase the gross production tax on crude from 2% to 7%, Oklahoma H-108 which would levy motor vehicle mileage taxes and Oklahoma H-567 which proposed an extra tax of 0.1c per gal. on gasoline and motor fuel.

Tax Bills Introduced

Taxation continued to be the theme in measure introduced during the past week. State Senator Droste and others brought forward 3 measures in Illinois, one of which would impose a 3c tax per bbl. on persons importing oil into the state, the second which would impose a similar tax on every 1000 cu. ft. of natural gas in the state and the third which sought to impose the same tax on persons importing natural gas into the state.

Pennsylvania showed legislative activity by introducing 2 measures which dealt with transportation of inflammable liquids. First of the measures brought forward by Assemblyman Leydic would require that all loads of inflammables be restricted to 1500 gals. on any delivery from bulk plant to stations which bulk plants are to receive full fire protection while the other called for companies and individuals operating fleets of trucks or trailers used for hauling inflammables to carry liability insurance in the amount of between $150,000 to $200,000.

Illinois Gets New Conservation Bill Backed by 3 State Oil Associations

Special to NPN

SPRINGFIELD, Ill., May 24.—Illinois Senate is considering a new oil conservation bill which would vest regulatory powers in the department of mines and minerals, instead of a new commission as proposed in the bill introduced previously at the direction of Gov. Dwight H. Green (NPN, May 14, 1941, p. 7.) The new bill, introduced this week, is sponsored by Sen. R. G. Crisenberry, Murphysboro, Ill., Democrat.

Backed by the Tri-State Petroleum Assn., Illinois Oil and Farmers' Equity Assn. and the Illinois Petroleum Marketers Assn., the bill incorporates all thoughts of objectors to the administration bill, according to its sponsor.

Crisenberry declared his bill contained no proration or spacing requirements, features of the administration-sponsored Benson-Carpenter bill. The new bill would not authorize the director of mines and minerals to limit production of any well, but would authorize a prohibition on the escape of natural gas, and would empower the director to prevent wasteful methods of production, drowning of wells and injury to property.

'Anti-Proration' Bill

Crisbenberry, pointing to one section of the bill, said it contained a provision denying the right of the state department to limit production from any well, pool or field, and that it was then an "anti-proration" bill. The section referred to reads: "Nothing in this act shall be construed as authorizing the director (of mines and minerals) to limit production of any well or pool or field."

The new bill would permit licensing and regulating of well-drilling; grant authority to regulate secondary recovery methods and to prevent wells from causing injury to neighboring property.

Under the proposed legislation, operators would be restrained from obtaining injunctions without proper notice and hearing. Penalties of $1000 fines and a year in jail for violations are provided in this bill, $500 fines and 6 months in jail for perjury of records.

Crisenberry bill was drafted by officials of organizations protesting bills of Gov. Green and Ex-Gov. Stelle.

Illinois and Indiana Oil Group to Meet

Special to NPN

ROBINSON, Ill., May 26.—Program of the ninth annual petroleum conference of the Illinois-Indiana Petroleum Assn., meeting here June 7, was announced today by Lee Mulvihill, executive secretary.

Morning sessions will be presided over by C. J. Haas, Centralia, Ill., Illinois production superintendent, Adams Oil and Gas Co., and welcome address will be delivered by Mr. Mulvihill.

A. I. Levorsen, Tulsa geologist, will present a paper on "Geology and Oil Discovery"; C. H. Gompf, Findlay, Ohio, treasurer, The Illinois Pipe Line Co., will discuss "Transportation of Crude Oil by Pipe Line"; and morning sessions will close with a sound picture, "Controlling Nature's Fury", under direction of C. P. Parsons, Duncan, Okla., vice-president, Halliburton Oil Well Cementing Co.

Afternoon Sessions

E. G. Robinson, Centralia, eastern production area manager for Shell Oil Co., Inc., will preside over the afternoon program, which schedules the following: Sam O'Neal, Washington correspondent, St. Louis Star Times, who will talk on "The Washington Situation"; Leo Ranney, McConnellsville, Ohio, petroleum engineer, who will deliver a paper entitled, "Horizontal Wells Are All in Pay and Flow by Gravity"; and H. Kennedy McCook, chief of information, priorities division of the Office of Production Management, who will discuss "The Development of the Present Preference Rating System".

Evening will be given over to the annual stag dinner, with Dr. Gus W. Dyer, professor of economics, Vanderbilt University, Nashville, Tenn., as guest speaker. Annual golf tournament is an additional feature of the program.

Penn Group Studies 'Emblem' Revisions

By Telephone to NPN

OIL CITY, May 24.—Question of revising neutral oil specifications for motor oils, is being studied by Pennsylvania Grade Crude Oil Assn., reports J. E. Moorhead, secretary, here this week. So far, no recommendations have been made, he said.

"Question is one which our technical committee has long had under consideration," Mr. Moorhead said. "However, the committee has made no report or recommendations to the Board of Directors, and pending receipt of such recommendations, it is unlikely the board will take any action."

Reduction of viscosity of neutral is favored by some members, in "emblem" oils from 180 vis. at 100° F. to 150 vis. at 100° F. while "the higher viscosity neutral is so scarce and for the duration of the present emergency," according to reports.

DEATHS

Harry Tipper

Harry Tipper, 61, Lafayette, Ind., creator of the advertising and sales promotion department of The Texas Co. and its manager from 1908 to 1917, died May 7 at his home. Born in Kendal, England, Mr. Tipper, widely known in advertising circles, was sales manager of the Brown Rubber Co. at the time of his death.

* * *

J. H. Gillette

J. H. Gillette, 41, Cleveland, specification and instrumentation engineer of Arthur G. McKee & Co. for past 15 years, died May 21. He leaves a widow, Mrs. Jean Gillette.

11% 'Gas' Increase Forecast for June

(*Continued from page* 9)

3% above actual demand for June, 1940.

Estimated required gasoline production by refining districts follows:

Gasoline Production

(Thousands of bbls.)

East Coast	6,780
Appalachian	2,110
Indiana-Illinois	12,120
Oklahoma	2,630
Kansas-Missouri	3,050
Inland Texas	3,500
Texas Gulf Coast	13,500
Louisiana Gulf Coast	1,610
Inland Louisiana-Arkansas	1,030
Rocky Mountain	1,490
California	6,980

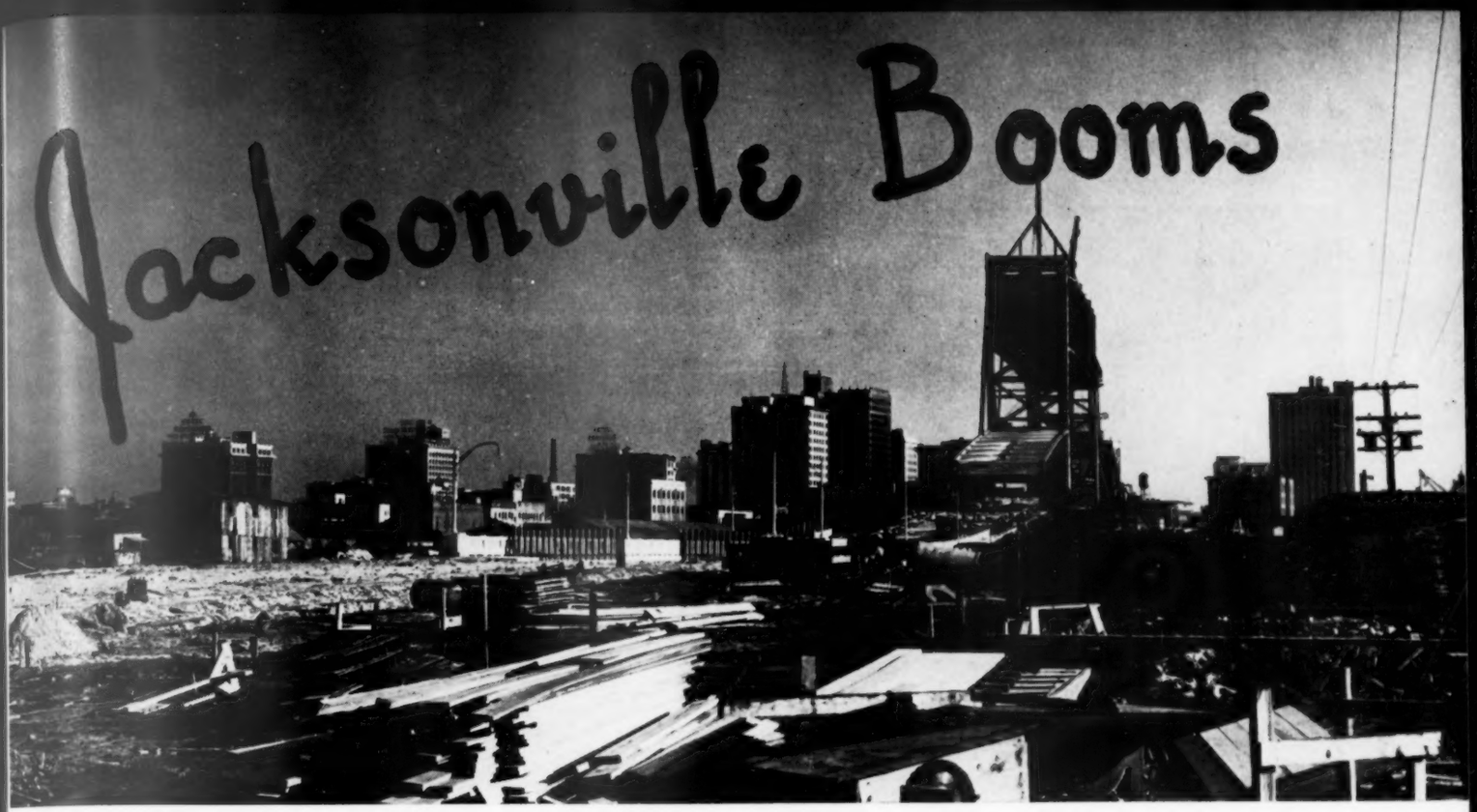
Estimated daily average crude oil demand forecast by states for June follows:

Daily Crude Demand

(Figures in Bbls.)

Texas	1,371,700
California	615,300
Oklahoma	459,700
Illinois	345,300
Louisiana	319,700
Kansas	220,400
New Mexico	113,000
Wyoming	89,300
Arkansas	83,000
Pennsylvania	48,000
Michigan	38,000
Mississippi	23,300
Indiana	22,000
Montana	19,700
Kentucky	16,300
New York	14,000
West Virginia	11,000
Ohio	11,000
Colorado	5,000
Nebraska	4,300
Total	3,830,000

Jacksonville Booms



NEW CONSTRUCTION against Jacksonville skyline is symbolic of defense boom in this Florida city. In center is new bridge being erected. Though hardly recognizable yet, the construction in foreground is a new service station

This is the 12th in a series of NPN articles on oil marketing in new defense areas

CONSTRUCTION of defense projects near Jacksonville, Fla., is nearly complete but the city's boom rolls along with retail trade 34% above last year and some oil marketers matching or bettering that percentage gain in their gasoline gallonage.

Camp Blanding, 50 miles southwest of Jacksonville, was one of the Army's first new camps under the defense program. Construction started early last fall. It reached a peak of 22,000 workers in December and January. They came from all over the U. S. National magazines played up the trailer camps and other boom-town conditions. Roads to the project were jammed with thousands of cars of workers commuting as much as 100 miles daily.

That construction boom has slowed down now. But local business men aren't complaining. Thousands of soldiers have moved into Camp Blanding —about 10% brought their cars with them. Nearby naval posts and flying fields are filling up, contributing their share to the thousands of uniformed men on Jacksonville's streets each night and week-end.

Service station construction in Jacksonville has followed the pattern of other defense-boom areas visited by NPN representatives. New stations in the city are going up along the routes leading to defense projects. Nearer the Army and Navy posts themselves, retail outlets have sprung up; some consist only of a shack and gasoline pumps. A new bridge across the St. Johns river at Jacksonville has also prompted the building of new stations.

Jacksonville's defense boom has coincided with a growth in number of private-brand stations throughout Florida. One new chain has just opened an attractive outlet in Jacksonville (see page 00) and is building another. Another independent marketer, selling under his own brand, has about 63 stations scattered over Florida; about 25 of them were built in the past year, according to reports in the trade.

Tieing in with these private-brand developments is the expansion of independent terminals in Jacksonville and elsewhere in Florida.

One independent has leased an ocean terminal in Jacksonville and is planning to build 2 more—1 on the Florida east coast and 1 on the western side of the peninsula. He buys at the Gulf and brings supplies around in chartered tankers, distributing by transport truck.

Another factor is a private brand being offered to independent marketers on a royalty basis. One Jacksonville marketer has taken on this brand, supplying his 11 company-operated stations by transport truck out of his terminal.

Other independent sources of supply include an independent refiner with terminals at Jacksonville and Tampa, and an independent marketer with 5 Florida terminals supplying private-brand operators by transport truck.

Down in Starke, Fla., just a few miles from Camp Blanding, the bloom is still on the boom, according to oil

New Soldiers Bring Their Cars With Them

LARGE NEW STATION being built in South Jacksonville, Fla., with streets on all three sides and drive-through lubritoriums

ANOTHER NEW STATION in South Jacksonville is shown under construction

marketers and station operators. In this little town, which didn't get a swelled head when visited by staff writers and photographers of national picture magazines, station gallonages jumped 50 and 100%. And the gains are still holding, dealers say.

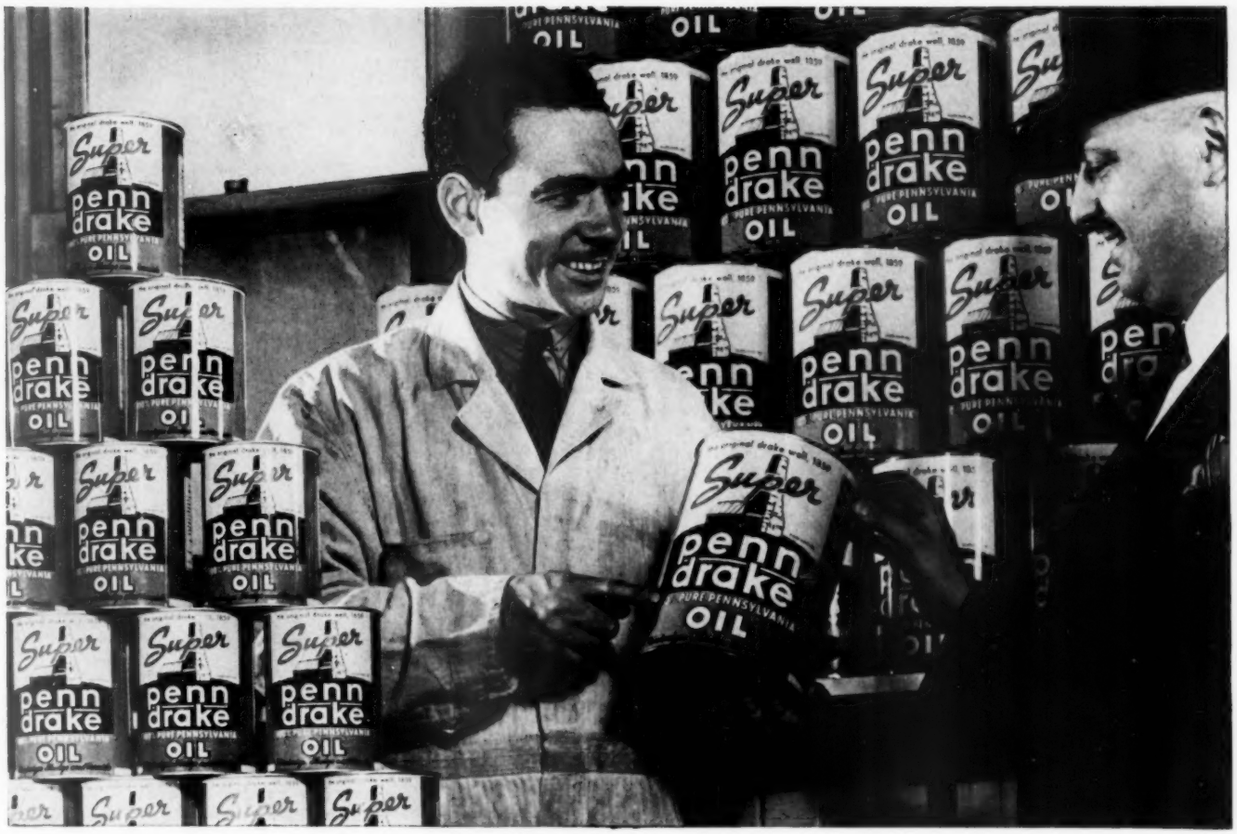
With thousands of soldiers at Camp Blanding having cars, the town of Starke is thronged with uniforms. There is a steady stream of trucks supplying needs of 38,000 officers and men at the camp. One soft-drink bottling company put on 14 new trucks to keep the boys from going thirsty. Also, visitors are beginning to pour in, vanguard of thousands of relatives and friends expected at the camp this summer.

Indicative of how gallonage gains are holding up are figures of one marketer in Starke. In April, his gasoline sales totaled 113,730 gals. as compared with 57,690 gals. in April, 1940. This rate of increase was only slightly below January when the construction boom was at its peak. In January, this marketer's gasoline gallonage was 141,991 gals. as compared with 51,117 gals. in January, 1940.

Just a few days ago, contract was

LEFT, new Jacksonville station going up at corner where a new highway from Naval Air Station will join with highway from Army's new Camp Blanding. New station will be similar to another new station (right) of same company in Ocala, Fla.

100% Protection



Super Penn-Drake is 100% Pure Pennsylvania Oil . . . 100% protected by Crown Cans on its way from refinery to consumer.

Sixty years of operation makes the Pennsylvania Refining Co. of Butler, Pa., one of the real veterans of the oil industry. During that time they have had frequent opportunities to compare, consider and pass upon the merits of all types of containers.

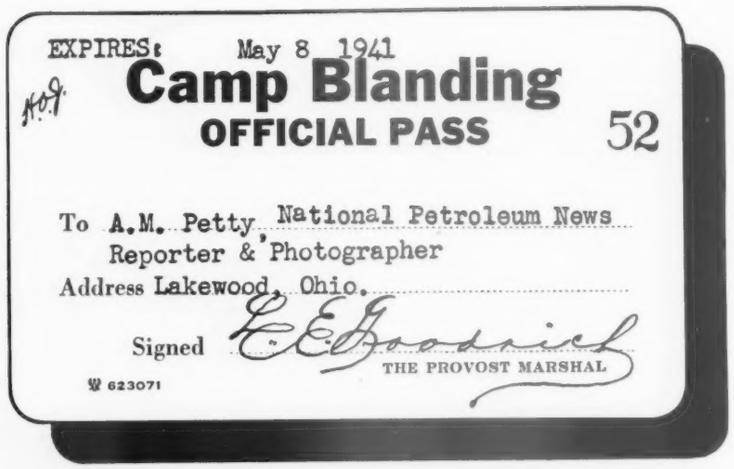
Today, Penn-Drake, one of the oldest and best qualified judges of container quality, has turned over the duty of protecting and preserving the purity of its product to Crown Can Company.

Many other oil companies are following the same course . . . a course based on the industry's realization that Crown Can brings to their problems a rare combination of experience, alertness, and enthusiastic cooperation.

CROWN CAN COMPANY, PHILADELPHIA, PA., *Division of Crown Cork and Seal Company,* Baltimore • St. Louis • Houston • Madison • Orlando • Fort Wayne • Nebraska City

INDEPENDENT AND HELPFUL

CROWN CAN



EXPIRES: May 8 1941

N.O.J.

Camp Blanding

OFFICIAL PASS 52

To A.M. Petty, National Petroleum News
Reporter & Photographer

Address Lakewood, Ohio.

Signed C.E. Goodrich
THE PROVOST MARSHAL

W 623071

PASS ISSUED TO NPN'S REPRESENTATIVE by Army authorities when he visited the Florida camp gathering data and pictures on Jacksonville defense boom article

let for an additional $2,100,000 construction at Camp Blanding. That brings the total cost to about $27,000,000. Garrison will total 52,000 by June 1, including 2263 officers. Early in May when there were about 38,000 soldiers in camp, the number of cars with Camp Blanding tags was about 3500. Allowing for some that hadn't obtained tags, that means about 10% of the garrison brought their cars with them. Of the total cars registered, 2092 belonged to enlisted men, 1404 to officers.

Arrangements for a Post Exchange (co-operative) service station at Camp Blanding had not been completed when the NPN representative visited there early in May.

Army officers were undecided whether to operate the "PX" station directly or let it out as a concession with the operator paying the Post Exchange a flat fee per gallon. (Profits of the Post Exchange are used for recreational activities.) In either case, the price to soldiers was to be 1c off retail price prevailing outside camp.

Regarding policy of selling to civilians visiting the camp, Army officers in charge of Post Exchange said:

"We don't want to sell to civilians; we won't seek their trade. But if they want to buy from us at the same price as charged by private stations outside the reservation, we'll sell to them."

He pointed out that this was, in effect, the same as saying that if civilian visitors are in need of gasoline to get them outside the reservation, the "PX" station will sell to them. If civilians don't need the "gas," there's no price advantage in buying at "PX".

At present, there are 4 temporary "PX" stations, each selling a different major company brand. They are operated by private individuals, much like a dealer outside. They sell at prevailing prices and pay the Post Exchange 1c a gal. Their deal is with the oil companies.

As to permanent arrangements for "PX" stations at Camp Blanding, the Post Exchange officers were undecided at that time (early in May) whether to have 4 different brands sold at one big station or 4 smaller stations; or to sell only one brand at either a big station or 4 smaller stations. If decision is to give one company all the business, then quite likely the company will loan the Post Exchange money to build a station, with repayment on a per-gallon basis.

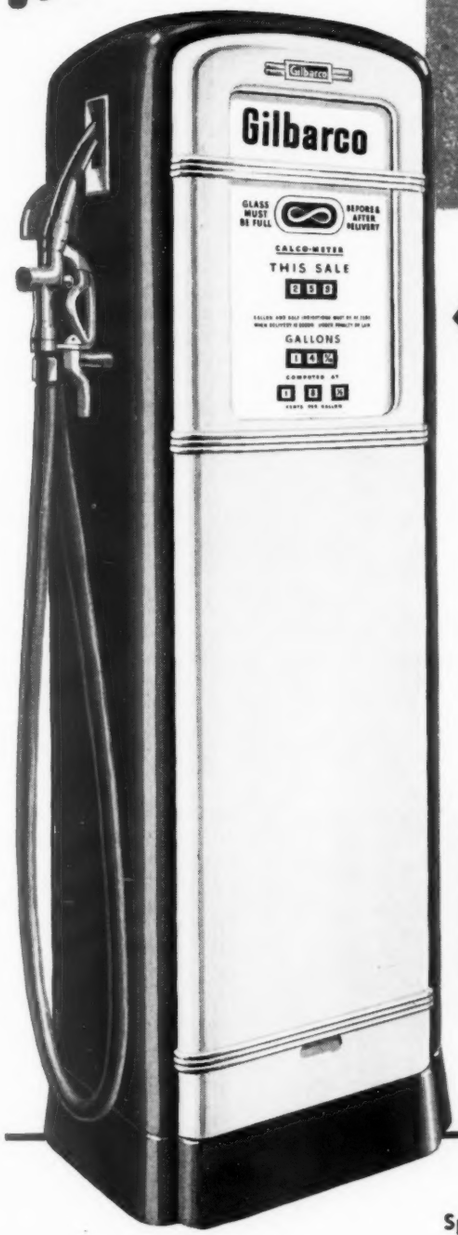
G. K. Duncan helps push a demountable tank on to new pick-up truck he bought to keep pace with his increased gallonage in the boom town of Starke, Fla., near Camp Blanding. Note the platform and length of pipe which makes it easy to slide tank into truck. He also bought 150 feet of hose and a pump, meter and "gas" engine (not shown) to complete the equipment for quick deliveries. Mr. Duncan is commission agent for Standard Oil Co. of Kentucky and during peak of construction delivered nearly 300,000 gals. of products to Camp Blanding in one month

NEW STATION just completed (above) in Jacksonville, Fla., near new bridge approach. Below is a "quickie" outlet thrown up to "cash in" on heavy traffic on road from Camp Blanding to Starke, Fla.

Bluejackets of the Navy fill Jacksonville's streets on nights and weekends—especially on pay days. About 10 miles south of Jacksonville is the new $25,000,000 Naval Air Station nearing completion. It covers an area of 3260 acres. Stationed there now are 383 officers and 3200 enlisted men. Their job is to train pilots for the Navy's air force. There are 600 in training now, with 274 planes on hand. But the numbers are growing daily. Program calls for training at least 3000 pilots, but the number may be nearer 10,000. There is also an auxiliary training base located about 25 miles south of the city, comprising about 800 acres and 10 outlying fields within 40 miles of city.

Army and Navy officers have taken homes for their families in and around Jacksonville, some commuting several times each week from Camp Blanding and other posts 40 or 50 miles away.

"T'ANKS A MILLION!"



Yes, Mr. Service Station Operator, you've certainly got something there! . . . You've got the twin brother of the pump that proved CALCO-METER'S "million-gallon" dependability. You've got a streamlined honey of a pump that's the biggest equipment buy your dollars ever bought. For your new Gilbarco CALCO-METER "96" will continue to give service that is *smooth, swift, quiet* and *accurate,* for years to come...Yes, you'll thank us a million for your new CALCO-METER "96."

NOTE TO PROSPECTIVE PUMP BUYERS

Write today for *Bulletin "96"* containing the complete specifications of this pump with "million-gallon" dependability!

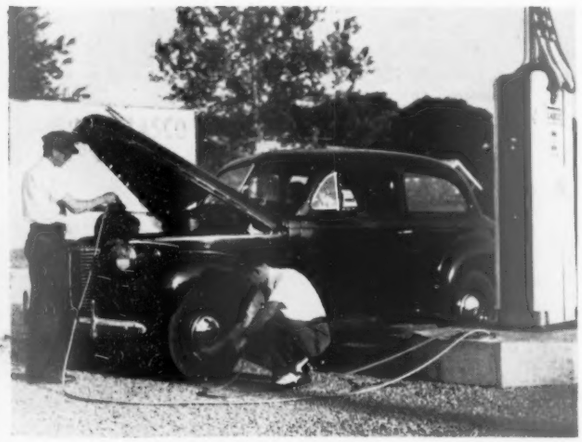
CALCOMETER 96

THE MILLION-GALLON PUMP

GILBERT & BARKER MANUFACTURING COMPANY

Springfield, Mass. **Toronto, Ontario, Canada**

H. G. WILLIAMS is general manager of this and 5 other Flasco stations



AIR AND WATER at the island is convenient, yet lines disappear when not in use. Only the nozzles show

CONTINUOUS ROTARY PUMP AND METER dispenses kerosine. A similar pump is used for diesel fuel

SIGNBOARD MAP aids tourists, advertises Flasco station locations

Marketer Dedicates New Sta

SERVICE—with modern station equipment needed to do the job—keynotes the operations of an independent marketer's chain of stations spreading over Florida.

Newest of these stations, operated by Florida Service Co., is in Jacksonville. It had been open only one day when visited by NPN's representative early in May. Flags and bunting were still up from the gala opening the day before.

Flasco—that's the marketer's brand name—has designed and equipped its stations to shout their message of SERVICE to passing motorists.

Eye-catching signs offer telephone service, ice water and road maps—plus "guaranteed clean" restrooms. Sweeping driveways and easy entrances invite the motorist in. Six widely-spaced pump islands suggest no waiting for service. And the quick trot of attendants to the car confirms this suggestion. There is no squeezing around other cars to get to the islands. "Shall I fill it up," asks the trained, courteous attendant as he launches a sales story about the pump nozzle that automatically cuts off when the tank is full, with no danger of spillage.

Gasoline pumps are equipped with extra long hose. There is never occasion for asking the motorist to "please back up a little closer to the pump."

Air and water lines at the island permit attendants to service the car on the spot. These flexible lines disappear on self-winding reels buried under the island. Only the nozzles show when not in use.

Three floodlights high above the driveways and added "floods" on the signs and pump islands, spotlight the station from 'way down the street. Lights tell the night traveler that the station is open and welcomes their business.

A diesel pump shows Flasco's eye to the future when Florida's new truck law will bring expansion of diesel truck operations on this route to the North. A continuous rotary pump with small dial and meter and underground tank completes the installation. A similar pump dispenses kerosine. Both are accessible, but located away from the gasoline pumps.

Easy entrance to the lubritorium, with plenty of space around the car and floors kept clean, also bespeaks the management's interest in the customer's convenience.

But it is the "guaranteed clean" restrooms which bring the customers back again, says H. G. Williams, general manager of Flasco stations. With white sidewalls to the building and doorway, added to the general air of spotlessness about the whole station, there is a build-up for the customer to expect the utmost in cleanliness when he enters the restrooms, he points out. And the customer won't be disappointed, if the management can help it.

The restrooms are small but adequate. Ample window space provides light by day; fluorescent light at night. Red tile floor contrasts with gleaming white of tiled walls and plumbing fixtures.

But how to keep it clean?

General Manager Williams has his headquarters in company offices built into the Jacksonville station. He says he comes downstairs to personally check the restrooms several times a day. If the slightest disorder is found, the assistant manager on duty has it called to his attention immediately. It is the assistant manager's responsibility to see that the Negro porter checks each restroom at least once an hour. The assistant manager is required to carefully inspect the restrooms when he comes on duty and

WIDELY-SPACED ISLANDS AND EASY ENTRANCE are inviting

New Station to SERVICE

when he goes off. The porter must carry mop and clean cleaning cloth each time he enters the restrooms for the hourly check. It works, too, he added.

To get customers' reaction, NPN's representative asked 3 motorists how they happened to drive into the Flasco station (it had been open only one day, and the personnel was from out of town). All three replied, in effect, "It's such a good-looking station and so clean, that we decided to drive in."

The Flasco station has 2 large billboards featuring a nationally-advertised Pennsylvania motor oil and a major company's oil, respectively. But the station also sells 2 grades of canned oil under its own brand names. These oils are canned and distributed by Citizens Oil Co..

Citizens Oil Co., a private-brand marketing company owned by Cecil Clark, with headquarters at St. Marks, Fla., supplies Flasco with its gasoline. Citizens is withdrawing from retail operations where Flasco is locating stations. Now, Citizens is concentrating on wholesaling and operation of its 5 marine terminals served by its own barges, and its transport truck operations.

J. A. Abbott is president of Florida Service Co.; Cecil Clark (of Citizens Oil), vice president; Claire L. Williams, secretary-treasurer; and H. G. Williams, general manager.

When he is not on the driveways or out of town inspecting the 5 other Flasco stations, Manager Williams spends his hours in the knotty-pine panelled offices upstairs and probably reading the current issue of NPN which was the only reading matter on his desk.

• • •

"GUARANTEED CLEAN" is the promise on station sign (inset in restroom picture at right). Flasco's manager has worked out a check-up system which he says is successful in keeping rest rooms clean

DEPTH OF DRIVEWAYS is shown by this side view of Jacksonville station

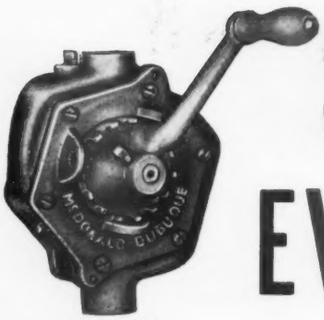


Plate 890

STA-PRIME STEPS EVEN FURTHER AHEAD

That the STA-PRIME has long been "tops" in performance is proved by the fact that it has for years been the industry's most popular hand rotary pump. Now an improved and simplified locking arrangement adds still further to its convenience and emphasizes its superiority. . . . Note, in the illustration, that there are three lock lugs on the side plate. A padlock placed through any one of these engages the teeth on the flange of the handle, and makes possible the locking of the pump regardless of the position of the handle.

The STA-PRIME is the logical choice of those who want the most dependable and economical means of pumping gasoline, naphtha, kerosene, alcohol, lube oils, etc. It holds its prime at all times—eliminates the necessity of a Foot Valve. Suction, 1". Discharge, ¾". Capacity: Approximately 10 revolutions delivers one gallon.

A. Y. McDONALD MFG. CO.
"The Home of the Swing Joint"
DUBUQUE, IOWA
There's a McDonald Branch or Distributor Near You

Available in Combinations to Meet Your Needs

890-A—Furnished regularly with 42" length of 1" suction pipe, special bung screw to fit 1½" or 2" opening of steel drum or tank, and ¾" outlet with non-drip bronze shut-off valve.

890-G—Similar to 890-A but with gooseneck on discharge. Gooseneck is ¾" with ¾" male thread for attaching hose.

890-P—STA-PRIME in combination with pedestal and base, together with ¾" discharge and special bronze non-drip shut-off valve. Very popular for filling station use.

890-T—A popular combination for use on skid tanks and drums, or wherever a transfer pump is necessary. No foot valve required. Vacuum breaker at top of discharge casting insures complete draining of hose.

Plate 890-A

Plate 890-G

Plate 890-P

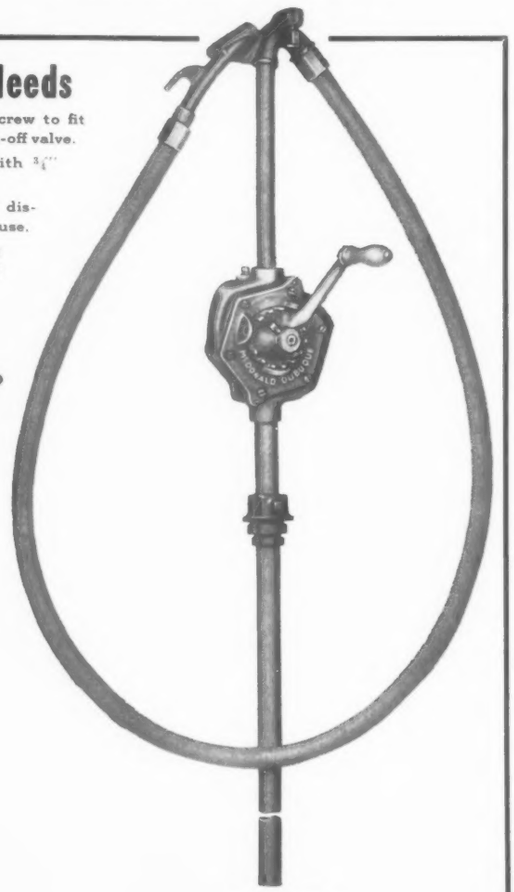


Plate 890-T

McDONALD

Tulips—Beautiful, Profitable

Holland, with millions of multi-colored tulips and Dutch-costumed natives, is not so far away—if one goes to the Michigan town of this name. So reports one of NPN's staff writers who bicycled through Holland's crowded streets during the Tulip Festival to see how oil marketers and service stations make good profits

LICENSE TAGS from the 48 states were seen last week at Holland's tulip festival

HOLLAND, Mich.

When Holland went "strictly Dutch" last week, only a dyke was missing. Its townsfolk turned out in baggy trousers, multipetticoats and lace and klomped the streets in wooden shoes in celebration of Tulip Time—otherwise known as "profit time" to Holland's oil marketers and service station operators.

Some 150,000 automobiles jammed this little Dutch city of 15,000 population, and found oil men all ready for the "big squeeze". And it was a squeeze. NPN's staff writer was forced to bicycle through car-packed streets.

He peddled his bicycle from service station to service station, zig-zagging through heavy lines of snail-pace traffic, to witness a boom-town business. Stations in Holland that had been pumping from 300 to 500 gals. of gasoline per day were now doing 1500 to 2500 and some even as high as 3000 gals. Motor oil sales jumped in like proportion.

Everything was on a "fill 'er up" basis. Average dollar sales per car almost doubled; several dealers estimated they were taking an average of $1.60 to $1.75 from each customer.

Hotels and rooming houses were overflowing — despite the fact that nearly everyone was in the rooming-house business during this festival. Three of the largest Great Lakes passenger steamers were tied up on the shore of Lake Macatawa to provide additional sleeping and eating facilities.

Holland decked itself out with over 3,000,000 graceful, long-stemmed tulips, 1,000,000 of them planted along several miles of streets designated as "Tulip Lanes". The town dressed itself in clothes its forefathers wore to gala affairs on the shores of the Zuider Zee. Holland opened its arms and said *Welkom Vreemdelingen* to motorists from all over the U. S. And "welcome stranger" it was, for they came in droves.

Holland's tulip festival attracts news reel photographers, and 2 or 3 movie personalities are always present. The whole town preens itself for the big event and is as "slick as a whistle".

Tulip Time was born of the idea of a Holland high school teacher. It was celebrated for the thirteenth time this year, May 17-24. Each festival is larger than the last, and this year, with the defense program pouring more money into more pockets, greater numbers of motorists than ever succumbed to the "get out and drive" itch, making Holland a stop-over point on their tours. What happened to the oil business in Holland last week will be happening at a great many places throughout the entire U. S. this summer.

Souvenir and soft drink business was zooming. Virtually every station in Holland sold toy wind mills, serving trays in the Dutch motif, lapel trinkets, wooden shoes—or *klompen*, as the natives called them—and other novelties that tied in with the Tulip Time celebration. Gross dollar sales of these items reached $500 at a good number of stations during the 8-day festival. "Pop" business was tripled and quadrupled, despite cool weather during the early part of the week.

Many "plus profit" items went unsold, however, as efforts were concentrated on pumping gasoline, checking oil and water, washing windshields and trying to keep space clear around pump islands for the next customer. About half of the stations in Holland hired extra attendants but were still under-manned. This shortage of help, or the inadequacy of driveways to handle the number of cars—sometimes lined up and waiting to approach the pumps—prevented most of the Holland stations from doing a complete selling job during the festival.

Hours of driving in low gear through heavy traffic made checking water particularly important part of servicing tourist cars. And traffic was heavy; one taxi driver told of making a three and one-half mile trip to one of the tulip farms outside Holland in the "exceedingly good time of two and one-half hours." On Sunday afternoon, cars were almost bumper-to-bumper over the entire 24-mile stretch on Route M-21 between Holland and Grand Rapids, Mich. Dealers had reams of sales ammunition for oil change, air and oil filter cleaning, but the rush of cars prevented most of them from going after this "plus profit" business.

Stations located outside the downtown section were the ones benefitted most by the tulip festival. Several miles of streets—the "Tulip Lanes"—were blocked off each day when Hol-

SOLID STREAMS OF CARS, as far as the eye could reach, poured into Holland for the tulip festival. This picture was taken Sunday, when gasoline sales reached 3000 gals. at some stations

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2 YEARS AHEAD WITH

Two-Step Springing

SOFT RIDE!

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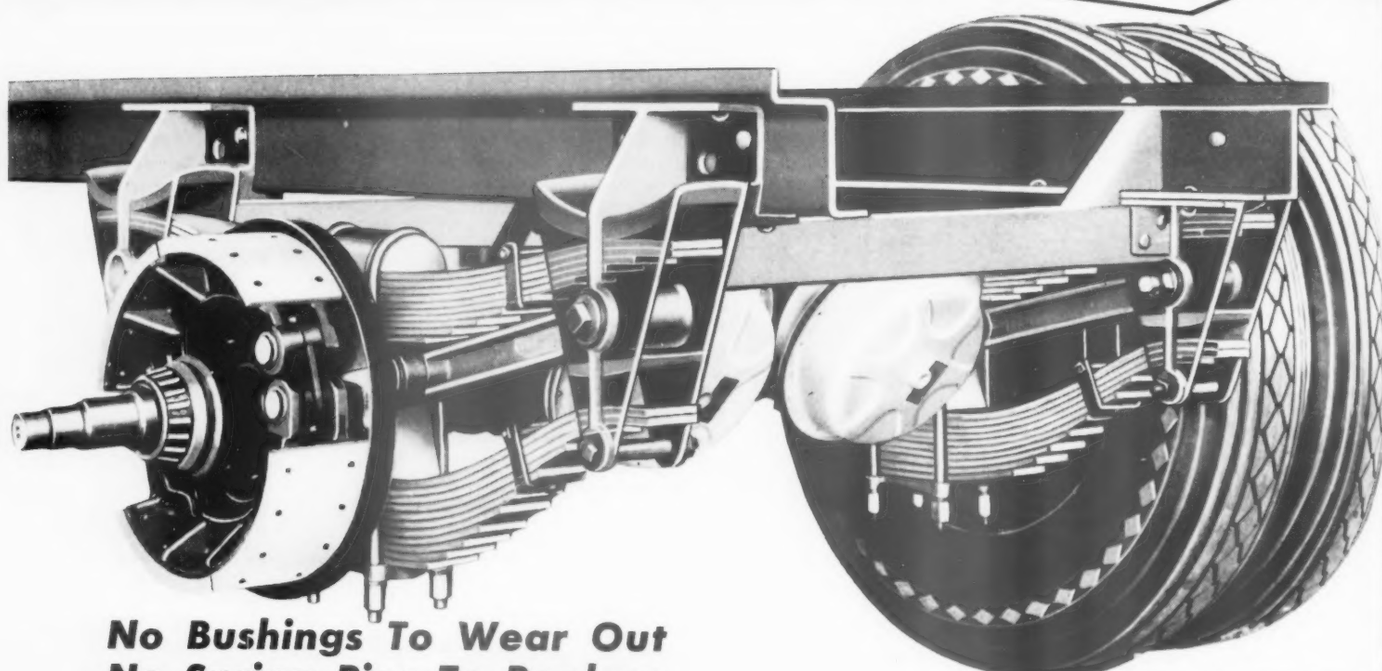

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No Greasing Necessary

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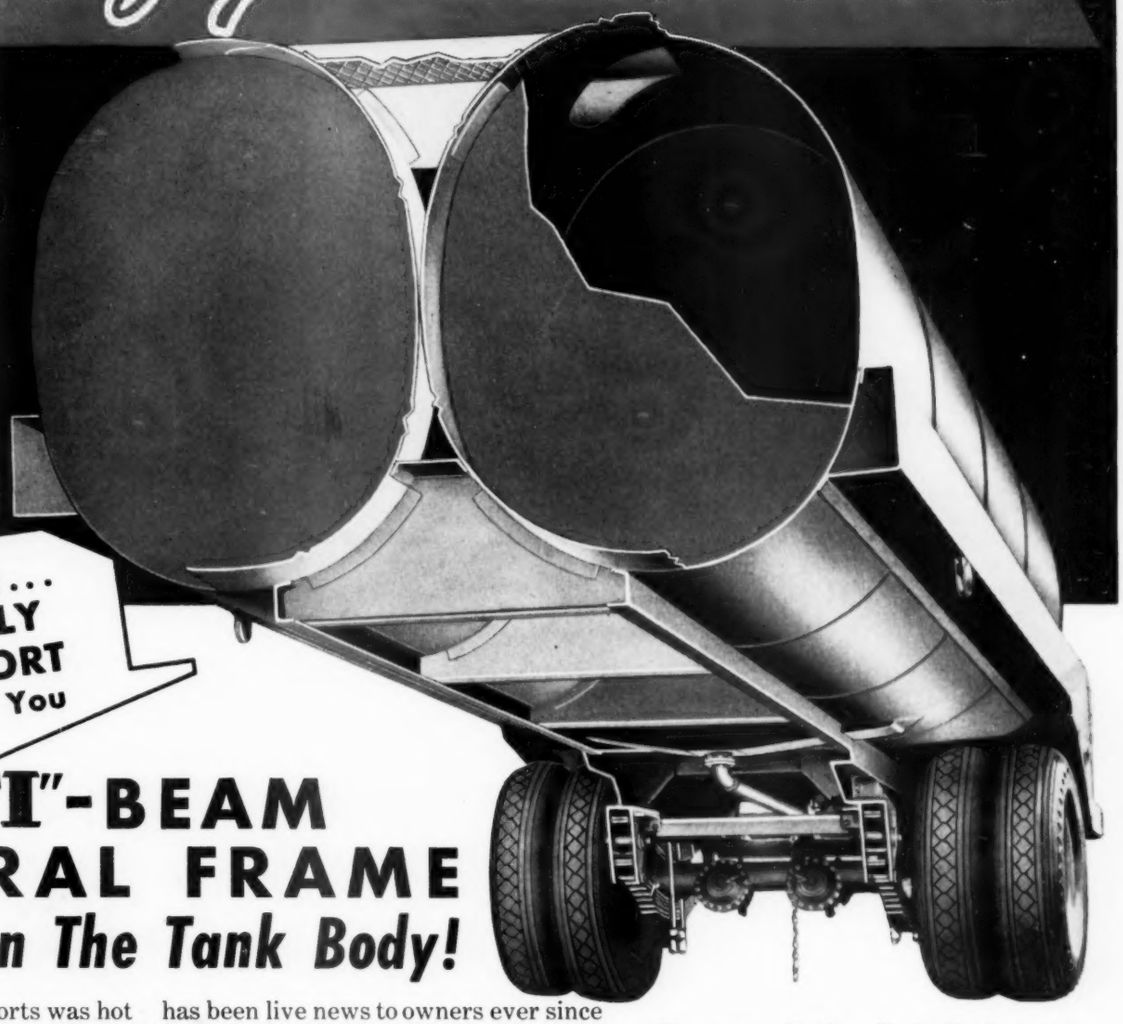

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AN "I"-BEAM INTEGRAL FRAME *Deeper Than The Tank Body!*

SOFT RIDE for trailer transports was hot news two years ago—thanks to Butler engineers. Butler Two-Step Springing has been live news to owners ever since because of the benefits it brings in slower depreciation, longer life, greater safety and lower per gallon-mile costs. It boosted the big nationwide swing to pacemaking Butler Twin-Tank Safety Transports. Developed by Butler engineers a full two years ahead of the field, *Soft-Ride* on *Butler Two-Step Springing* is a performance proven advancement—so good that only prohibitive patent license restrictions could keep it from coming into universal use—just as the integral frame has now been universally adopted in trailer tank construction.

However, Butler Twin-Tank construction *alone* gives you an integral frame deeper than the tank body—the *only* frame deep enough to function as a stronger load carrying beam than the tank itself.

Together—Butler Twin-Tank construction and Butler Two-Step Springing give you the highest engineering development for hazardous liquid load transportation—where Greater Safety through Greater Strength is vital. Send for the full facts before you buy any transport.

COMPARED TO A CONVENTIONAL OVAL TANK OF THE SAME HEIGHT AND WIDTH:

1. **Twin-Tank strength as a beam gives a 20 to 1 factor of safety.**
2. **Twin-Tank critical bottom strength is 8½ times greater.**
3. **Twin-Tank hopper or liquid carrying strength is 3¼ times greater.**
4. **Twin-Tank vertical sheer strength is twice greater.**
5. **Twin-Tank short radii virtually eliminates vibration, the cause of leakage.**
6. **Twin-Tank capacity is one-half gallon per inch of length greater.**

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Send full information on Butler Twin-Tank Safety Transport of.....capacity with compartments of.....gallons capacity for.....truck. Together with Full Facts on Two-Step Springing.

Firm Name .....

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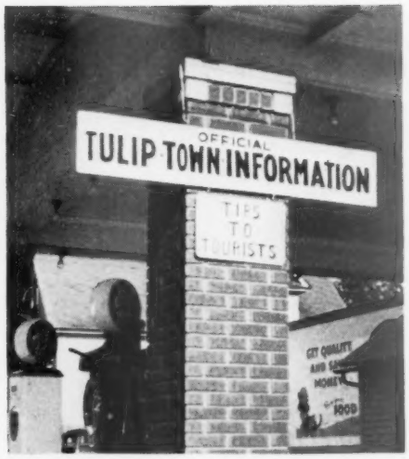
City ..... *State* .....



TOURISTS SEEKING tulip information between 8 and 9 o'clock Sunday morning, bought 100 gals. of gasoline at these two pumps, located in front of a bulk plant

landers scrubbed down the streets, paraded to the music of some 2000 bandsmen and held their *klompen* dances.

Driveways of many stations were used for parking lots as motorists hurriedly left their cars to join the throngs watching parades. "Pop" and restroom business exceeded all bounds then, and a customer for gasoline was an oddity. NPN's staff writer counted 8 men and 11 women standing in line to use restrooms at one station. And the soft drink cooler was mobbed.

Dealers reported considerable difficulty in keeping restrooms clean. Cleanliness was a "must" for Holland stations throughout Tulip Time and many said they made regular half-

OWNERS OF THE ABOVE vehicle plan to buy a 1941 model for Holland's tulip festival—in 1959

OIL MAN William C. Vandenberg, like hundreds of other Hollanders, dressed in authentic Dutch costume for his part in Tulip Time festivities

hour inspections. It wasn't a matter of waiting until no one was around, either. Dealers had to march right up to the head of the line, lock the door and declare a "recess".

There are about 40 stations in Holland—and as many churches. The town ranks second in the number of churches per capita among U. S. cities and Sunday is really a day of quiet for the townsfolk. Among the service station operators—whose names appear in the telephone directory along with the Van Versts, Masselinks, De Vries, Vander Velds, Vandenbergs, Westrantes and Leenhouts—are many who make Sunday a day of prayer. In fact, about 28 of Holland's 40 stations are closed tight each Sabbath.

But tourists make Sunday about the biggest day during the festival. Stations that remain open do a land-office business, and are careful to be amply stocked. For to exhaust a supply on Sunday usually means nothing can be done about it. NPN's staff writer was at one station when it ran out of soft drinks—and remained out of soft drinks. Three other stations ran dry of gasoline, only one of which was able to get more—and then only by phoning the tank truck driver at his home to request delivery.

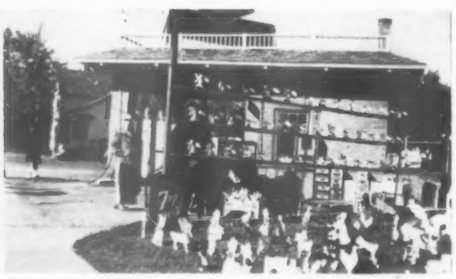
Hollanders anticipate the rush busi-

TYPICAL OF THE DUTCH, this station operator spends Sundays in church. About 28 of Holland's 40 stations ignore a large potential Sunday market—even during Tulip Time

ness done by service stations during Tulip Time and bring their cars in for servicing before the festival begins. During the week before the celebration each year, stations are busy lubricating and washing local cars. A typical incident was witnessed at a station on Friday night before the festival opened when a local car owner said: "Better fill it up—I don't want to be caught short next week."

Tulip Time is pure gravy for Holland's service station operators. One of the cleanest markets in the U. S., this little Dutch city has never been "subnormal" and no station gives away its profits. Grand Rapids, Mich., only 24 miles from Holland, has been one

BIGGEST GALLONAGE STATION in Holland, operated by the president of the local dealer association, did a huge Tulip Time business



TIE-IN WITH TULIP TIME for Holland's service stations was the sale of toy wind mills, wooden shoes and other souvenirs. Sales of these novelties, conducted in many instances by young women in Dutch costume, reached $500 gross during Tulip Time at some stations

COMPARE YOUR OPPORTUNITIES FOR EXTRA PROFITS WITH WHAT CITIES SERVICE HAS TO OFFER!

Are you content merely to sell gasolene and motor oil when it is asked for, and let it go at that? Do you find that your so-called extra-profit drives have a way of folding up half-heartedly? If that is true in your case, it will pay you to investigate the genuine profit opportunities offered by Cities Service.

We know that it is necessary for us in the interest of our dealers to do more than produce the best possible standard petroleum products. We have developed, therefore, certain exclusive products and service features, such as Power Prover, Sealed Lubrication, Cisco Solvent — all of them tried and true money-makers. These enable Cities Service dealers to give their customers better service and at the same time pocket a sizeable income in extra-profit items. Many dealers now using these features report substantial profit increases every month.

If you are interested in finding out how this modern marketing technique can add to your profits, mail this coupon today.

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of the "hot spots" for price wars for some time, but prices in Holland have been maintained, despite some loss of business to those who drove to Grand Rapids and bought gasoline from 3.5c to 4c per gal. off.

William Meengs, president of the Holland-Zeeland Gasoline Dealers Assn. and operator of Holland's biggest gallonage station, holds to this philosophy: "If I can show a constant increase, year by year, when selling for a legitimate profit, I'm not going to cut prices." And other dealers in Holland feel the same way. NPN's staff writer "legged" his bicycle to nearly every station in Holland and found no price below a straight 18c per gal. Holland dealers are proud of their market and look upon the local dealer association as one of good-fellowship only.

Many of Holland's oil men take active part in the festivities. William C. Vandenberg, co-owner of Vandenberg Bros. Oil Co., independent marketers, has been a participant in the Volks Parade and street-washing for several years. Last year, being a councilman, he acted as a member of the *Gemeenteraad* (common council) and with the mayor, known as the *Burgemeester*, inspected the streets in a ceremony that precedes the street washing.

This year, Oil Man Vandenberg's brother was "caught" by the news reel camera when a large lady in full Dutch regalia swooped down on him, planting a resounding kiss on his beet-red face.

Handbook of Fire Protection

Ninth Edition, revised, of Crosby-Fiske-Forster Handbook of Fire Protection has recently been published by the National Fire Protection Assn., International, 60 Batterymarch St., Boston, Mass. This 1308-page Handbook, besides combining all published standards of the association, contains basic and supplementary material not appearing in published standards.

Chatham Moves Office

Chatham Petroleum Co. has moved its office to 15 Moore St., New York City, from 100 Fifth Ave., announces Miss G. Srager, president.

Hollywood Honors Gulf

Gulf Oil Co.'s "Screen Guild Theater" has been awarded first plaque ever presented a radio program by the motion picture industry "for eminent achievement in furthering the advancement of the allied arts of motion pictures and radio." Movie stars appearing in the dramas donate their services and Gulf Oil Co. contributes $10,000 each week to the fund.

ANNUAL REPORTS

Skelly Oil Co.

Net income of Skelly Oil Co. and subsidiaries for 1940 was $3,316,678, comparing with $2,360,783 for 1939.

"Sales of gasoline (including natural) during 1940 amounted to 259,592,618 gals., compared with 260,083,000 gals. in 1939. Sales of lubricating oils and greases in 1940 were 3,830,876 gals., compared with 3,863,000 gals. in 1939. Particular attention is being given to profit from sales rather than volume of sales; for example, in view of the unsatisfactory level of gasoline prices, operation of the refinery was adjusted to the production of less gasoline and correspondingly more tractor fuel and other distillates which were profitable.

"Sales of automobile tires, batteries, accessories, etc., through company-owned stations and to its jobbers and dealers amounted to $1,270,167 in 1940, compared with $1,378,000 in 1939," report to stockholders states.

* * *

Standard Oil Co. of California

Net profit of Standard Oil Co. of California in 1940 was $22,487,586.16, comparing with $17,882,505.31 for 1939.

During the year, California Standard completed plans for construction of a $4,500,000 Houdry process unit at the company's El Segundo refinery. Company has also set aside "large sums" for construction of additional plants in 1941, which includes expanding by about 30% the company's capacity to produce the RPM-type solvent refined lubricating oils.

"Gross realization was lower in 1940 than in 1939, due mainly to the general reduction in prices of all grades of motor gasoline made in May to meet competition, and to lower prices for fuel oil and asphalt prevailing throughout most of the year. Total sales of products and merchandise within the company's domestic marketing area (exclusive of offshore and miscellaneous sales) amounted to $138,548,000, as compared with $139,973,000 in 1939," report to the stockholders states.

Decentralization of sales and operating responsibilities, accomplished through broadening functions of branch managers, was continued throughout the year. "The reorganization, together with a concentrated program to reduce selling expense, resulted in a reduction of over 10% in per barrel marketing expense. New distribution facilities were installed in western Alaska, Midway, Guam, and other Mid-Pacific islands," report states.

* * *

Mid-Continent Petroleum Corp.

Consolidated net income of Mid-Continent Petroleum Corp. for 1940, after all charges and reserves, was $2,967,393.93, or equivalent to $1.60 per share of outstanding stock. This compares with $2,650,501.59 or $1.42 per share in 1939.

Refinery improvements completed during 1940 were responsible for reduced refining costs, reflected in increased profits, company's report states. Mid-Continent's West Tulsa refinery ran 9,824,775 bbls. of crude in 1940, compared with 10,174,871 bbls. in 1939. Sales of all products, including sales of subsidiary companies, were 507,374,101 gals., compared with 509,266,443 gals. in 1939, record year for volume.

Taxes payable by Mid-Continent in 1940, including taxes on sales, represented over 1.3 times the total payroll of the company and about 6.9 times the dividends paid to stockholders, report states.

* * *

Darby Petroleum Corp.

Net profit of Darby Petroleum Corp., Tulsa, for 1940 amounted to $394,156.74, equivalent to $1.12 per share on 351,390 shares outstanding; an increase of $383,482.68 over 1939. "This increase is largely accounted for by an increase of approximately 30% in the number of barrels of crude oil produced, although the average sale price decreased from $1.03 to $1.01 per bbl.," report to stockholders states.

* * *

British American Oil Co., Ltd.

Net profit of British American Oil Co., Ltd., Toronto, for 1940 was $3,084,992, compared with $3,438,540 for 1939, despite highest gross earnings from Canadian operations on record, company reports to stockholders.

"This decrease in the net revenue from Canadian operations results solely from increased taxations," report states, adding, "Taxes for Dominion and Provincial income and excess profits amounted to $1,735,737.67, or more than double those paid on Canadian earnings for 1939."

British American reports the purchase of property on the Lakeshore south of Clarkson, Ontario, for the erection of a lubricating oil refinery for which equipment has been ordered and on which construction will commence immediaely. "The capacity of this plant, together with the increased capacity of other oil companies, will render Canada substantially independent of importation of lubricating oil," report states.

THE SHELL SOLUTIZER PROCESS

SWEETENS GASOLINE BY

EXTRACTING THE MERCAPTANS

AND THEREBY PROVIDES FOUR ADVANTAGES:

- **a marked improvement in lead response**
- **a better inhibitor response**
- **a reduction in sulfur content**
- **and often a raised clear octane number**

Large-scale operation in three Shell refineries has proved the complete practicability of the Solutizer Process. Essentially, this revolutionary method consists of the following steps:

First, the sour gasoline is pretreated with a caustic solution to remove such impurities as carboxylic acids and to control other acidic components such as alkyl phenols, to permit efficient solutizer treatment.

The pretreated gasoline is passed through a counter current extraction unit into which is introduced a caustic solution containing an organic Solutizer, preferably potassium isobutyrate. A doctor-sweet gasoline and a fat solutizer solution are withdrawn. U.S. Patents No. 2,149,379 and No. 2,149,380.

When sweetening cracked gasoline, mixed solutizer solution (containing alkyl phenols) is used to control natural inhibitor content. U. S. Patent No. 2,223,798.

The fat solutizer solution is diluted and regenerated by being stripped of mercaptans with steam. U. S. Patent No. 2,152,724. Other patents are pending on the method used for springing dissolved gasoline to reduce loss to a minimum.

For information, write to Shell Development Company, 100 Bush Street, San Francisco.

SHELL

SHELL DEVELOPMENT COMPANY

LICENSORS: Shell Solutizer Process, Shell Phosphate Process, and Shell Regenerative Mercaptan Removal Process

Need of Southeast Pipelines Told to Congressional Group

With completion of plans by U. S. Government to take over 50 tankers for aid to Great Britain and with possibility of more of the oil industry's tankers being requisitioned and thus taken away from regular runs, importance of pipeline transportation is being pointed up.

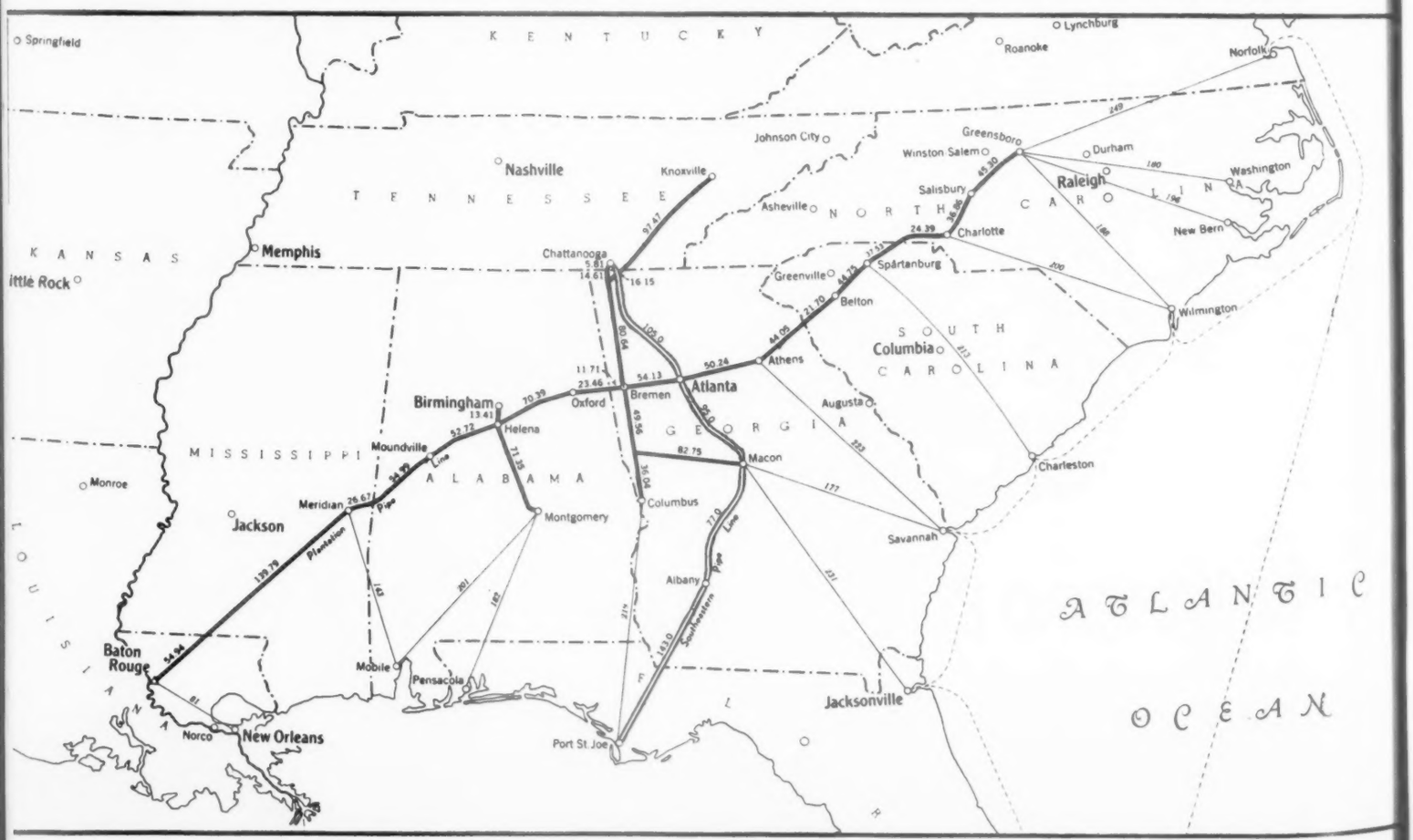
In line with transportation problems that may have to be solved because of national defense needs for oil tankers, is pipeline testimony given during week of April 1 by R. T. Haslam, vice-president and general sales manager of Standard Oil Co. of New Jersey, at Washington before the Congressional Oil Investigating Subcommittee at the invitation of its chairman, Rep. William P. Cole, Jr.

Points brought out by Mr. Haslam about proposed construction of the Plantation pipeline—to extend from Baton Rouge, La., to Greensboro, N. C.—include:

1. **Purpose and size of pipeline.**
2. **Pipeline capacity sufficient to transport about 50% of gasoline requirements for Mississippi, Alabama, Georgia, South Carolina and North Carolina.**
3. **How pipelines have reduced cost of gasoline in the East and Mid-west, with accompanying detailed charts.**
4. **Of total Army's indicated awards for aviation gasoline in continental U. S. in first half of 1941, 17% is in the 6 states to be served by this pipeline.**
5. **Plantation Pipe Line will change short haul movement by railroad and truck, both in volume and direction.**
6. **Trouble arising from refusal of Georgia to grant right of eminent domain for pipeline to cross railroads rights-of-way.**
7. **Importance of pipeline both in times of peace and war.**

WITH experience gained from crude oil transportation the industry inaugurated about 10 years ago, the first transportation of gasoline by pipeline over any considerable distance when the Tuscarora Oil Co. successfully converted its crude lines, previously employed to transport crude oil eastward from the Ohio-Pennsylvania border to Bayway, N. J., into a gasoline carrier employed to convey gasoline westward from Bayway, N. J., to Midland, Pennsylvania. This conversion led others into the field, and as of Dec. 31, 1939, the companies reporting to the Interstate Commerce Commission were operating 5467 miles of pipelines which transported 95,060,468 bbls., of 42 gals. each, of gasoline and refined oils during that year. This network of gasoline pipelines is in the States of the Mid-Western area and the Northern States of the country from Illinois to the Atlantic Seaboard, transporting the refined product from refinery centers to the more populous

Two proposed pipelines in Southeast are shown on this map. Plantation Pipe Line Co. (described in the accompanying article) is to be built by Standard Oil Co. and Shell Union Oil Co., running from Baton Rouge, La., to Greensboro, N. C., with lateral lines to other points. Southeastern Pipe Line Co., virtually completed except for connections under railroad and highway rights-of-way, is also shown



consuming centers, and forms a vital link in our industrial system.

Plantation Pipeline Outlined

The proposed Plantation Pipe Line, extending from Baton Rouge, La., to Greensboro, N. C., is to be built in order to insure a dependable source of petroleum products to the Southeastern area in the event there should develop an interruption of ocean tanker movement to Atlantic Seaboard ports by reason of any national emergency. Even if available tank car facilities would be adequate to supply these markets, the cost of such transportation would be prohibitive and the pipeline would provide the most economical method of moving petroleum products. The proposed pipeline, with lateral spur lines previously mentioned, will be approximately 1261 miles long, of which 435 miles will be 11 in., 359 miles 9 in., 214 miles 6 in., and 253 miles 4 in. pipe. There will be 14 pumping stations and 17 terminals from which gasoline and other refined petroleum products can be delivered throughout the territory to be covered by this pipeline.

The construction program under normal conditions, assuming uniform receipt of materials and equipment and the necessary labor, will require 7 to 8 months to complete the line ready for operation. Under a rush construction program, such as might be required by an emergency, the line could be placed in service in 5 to 6 months time after pipe deliveries.

The present design provides for a normal input base load capacity of 48,000 bbls. per day, which can be increased to 72,000 bbls. per day by installation of additional pumping stations. The normal capacity of the line, if used wholly as a gasoline carrier, will be sufficient to **transport about one-half of the gasoline requirements of the States of Mississippi, Alabama, Georgia, South Carolina and North Carolina.**

Economic and Industrial

The Southeastern section of the U. S. is without the advantages of pipeline transportation, except from Port St. Joe, Fla., to near Bainbridge, Ga., being dependent on tankers, barges, rail and trucks for its supply of petroleum products.

The total area of this region is over 279,600 square miles and represents 9.2% of the total area of the Continental U. S. This area supports 16,251,000 people or 12.34% of the total population. (1940 figures, U. S. Bureau of Census).

There are approximately 2,300,000 trucks, buses, passenger automobiles and farm tractors in this area. In order to supply these various demands, approximately 47,000,000 bbls. of gasoline are required per year.

According to the 1930 census, this territory has a total of over 15,000 manufacturing plants, or over 9% of the total number of such plants in the United States. The value of their product, in round figures, is $5,300,000,000 per annum, or approximately 8.8% of the total for the entire country. Many essential war materials are produced in this region, including such an imposing array as cotton goods, lumber, timber products, turpentine and resin, iron and steel, cement, pulp and paper, fertilizer and feeds, not to mention a host of others. We believe that these few figures adequately show the importance of this area to the national defense.

Aviation and Cantonments

The territory which will be served by the Plantation system is an important one in the re-armament program. Located in the area are 30 airports suitable for use by military aircraft as well as 18 Army camps completed or in progress of construction (See Exhibit B). In addition, it appears that the military and naval policies dictate that a great number of schools for primary training of Army and Navy air pilots are and will be located in the States of Georgia, Alabama and the Carolinas. Of **the total U. S. Army's indicated awards** for aviation gasoline for continental U. S. A. in the first half of 1941, **17% is in the 6 major** states to be **served by the Plantation Pipe Line.** The government's fuel demands in this area will be greatly increased by the preparedness program and there will be an expanding demand from civilian schools operating under Army contracts. Adequate and dependable sources of supply become of paramount importance to such widespread military operations. The Plantation system with its input base load of 48,000 bbls. per day of refined products received directly from refineries at or near the crude oil production areas, will be in an excellent position to meet any and all demands made upon it.

To Replace Tanker Movement

At the present time 89% of the total volume of petroleum products, which the line would transport, now moves either wholly or in part by ocean tanker or barge, and only 11% moves by rail alone. Approximately 65% of the proposed pipeline movement is now shipped by tanker to the states of Georgia, South Carolina, North Carolina and southern Virginia. As can be seen, the Plantation Pipe Line is a new transportation agency principally competitive with Gulf and ocean movement by tankers and large barges rather than with shipment by rail. In addition to being a new mode of transportation into the southeastern area competitive with tanker movement, the Plantation Pipe Line will also change the short haul movement by railroad and truck, both in volume and direction. Just how much it will change short haul railroad movement in volume or ton mile is at present uncertain, but it is obvious that there will be some effect since the route of the pipe line lies to the west of the coast line near the large cities of the states

R. T. Haslam

through which it passes. Moreover, it will obviously change the direction of movement because at the present time rail and truck movement is from the coastal terminals westward whereas the movement from the various pipeline terminals will be both eastward and westward. Movement via Plantation Pipe Line under full operation would release for other use 6 tankers and a number of barges now serving the South Atlantic Coast area.

Safety

The transportation of gasoline and other refined products by pipe line is of a distinctly safe nature. Almost four billion gallons are transported annually to various other sections of the United States with an exceptional record of safety . . . Solid welded pipe is buried 2 or 3 ft. underground and the surface may be replanted with vegetation indigenous to the surrounding territory. The pumping stations, which are 50 to 75 miles apart, are relatively small and may be made quite unobtrusive. Also, while the chance of a direct hit by a bomb on the pipe line is remote, in case such an accidental hit is scored the damage would be relatively slight and the line could be repaired quickly, in great contrast to all other methods of transportation—be they railroads, tankers with their ports and docks, or highways for the use of trucks.

Construction Progress Told

The preliminary work on the Plantation Pipe Line System has been in progress for approximately one year. Applications have been presented for permission to install the pipeline underneath and across railroad rights-of-way. Such applications were made to 24 separate railroad companies asking

for a total of 81 crossing permits. All applications have been denied except the application of 1 railroad for 1 crossing. It is apparent the laws of Georgia in their present state do not permit the Plantation Pipe Line Co. to exercise the right of eminent domain as a means of procuring the privilege of crossing the railroad rights-of-way. Efforts of another pipeline company to procure permits to cross railroad rights-of-way in Georgia will be presented in detail by the next witness. The laws of all states other than Georgia and South Carolina traversed by the Plantation Pipe Line Co.'s line permit it to exercise the right of eminent domain to procure the right to cross railroad rights-of-way. Litigation to establish the pipe line company's ability to cross railroad rights-of-way in such other states will be shortly commenced. The completion of such litigation will delay the construction of the Plantation Pipe Line Co.'s contemplated pipeline for at least 6 months.

Conclusion

In this brief presentation we have indicated **the importance,** both **in peace and war time,** of Mississippi, Alabama, Georgia, South Carolina, North Carolina, West Tennessee and Southern Virginia, which is the area to be served by the Plantation Pipe Line and have shown what proportion of the total motor fuels consumed in this area can be handled by this line. We have also shown that this line primarily replaces tankers rather than all-rail movement, and, finally, we have indicated the relative safety of pipeline transportation and the ease with which it may be protected and repaired in war time. In conclusion, we wish to emphasize that the Petroleum industry is fully alive to the problems confronting the government in this national emergency and that they are fully capable of doing their part in supplying a variety of petroleum products—be they motor gasoline, aviation gasoline, lubricants or fuel oils—wherever and in whatever quantity needed. In fact, it is the objective of the petroleum industry not only to keep abreast but actually, both in quality and quantity, to be ahead of all requirements and all that is needed is to know what is required by the government and the go ahead signal given."

Economics of Oil Prices

The price of any product is affected by many factors and is controlled by one factor, hence the subject of pricing is a complicated one. Nevertheless, the layman would probably approach this subject from one of two very practical angles. If a new store opened in the neighborhood and a customer could buy cornstarch cheaper at that store than he could in surrounding, but comparable neighborhoods, he probably would conclude that the new store had brought down the price of cornstarch. Again if he was particularly interested in this subject, or if he was somewhat technically minded, he might note that the retail price of cornstarch at this store, when compared with the wholesale price of cornstarch, was lower than indicated by the differential between the retail and wholesale price at other stores in similar neighborhoods. Let us use these same two simple methods to see the effect of pipe lines on the price of gasoline in the areas affected by the pipe lines.

Pennsylvania was not only the first State to have gasoline pipe lines, but probably a higher proportion of the gasoline consumed in Pennsylvania is transported by pipe line than in any other state. Therefore, it would seem desirable to study the situation in Pennsylvania. I hand you herewith a chart (see Chart No. 1) on which there are 2 lines; one a broken line which shows the yearly average posted tank wagon price of gasoline in 50 representative cities in the United States; the solid line shows the same yearly average posted tank wagon prices in 6 of the largest cities of Pennsylvania. You will note from the information given on the chart that 3 large pipeline systems started operations in Pennsylvania during 1930 and 1931. Let us now see what the chart tells us relative to the price of gasoline in the 6 major cities of Pennsylvania as compared with the 50 representaive cities in the United States. You will note that from 1927 to the opening of the pipelines in 1931 that the price of gasoline in the 6 Pennsylvania cities was always equal to, or higher in cents per gallon, that the price of similar gasoline in the 50 representative cities in the U. S. From 1932, the price of gasoline in these Pennsylvania cities was always exactly the same as the price in the rest of the U. S. The effect of the lower cost of transportation had not yet fully taken effect. However, starting with 1933 and for *every year thereafter,* the price of gasoline in the 6 representative cities in Pennsylvania, instead of being equal to or higher than the price of gasoline in the 50 representative cities of the U. S., as it had been prior to the installation of the pipelines, *has been lower.* And, in fact, for the last 5 years of this chart, the price in Pennsylvania has been almost 1c a gal. below that sold in the 50 representative cities of the U. S. We believe no one can look at this chart without concluding that the pipelines have had a very marked influence in reducing the price of gasoline in Pennsylvania.

Now to use the second method mentioned, namely, to compare the retail price with the wholesale price. In this connection I hand you chart (2). (See Chart No. 2). On this chart we have shown the same yearly average posted tank wagon price of gasoline in the 6 representative cities of Pennsylvania, but this time instead of showing it as cents per gallon, we have used an index curve with the price for 1931—the year the pipelines in Pennsylvania were completed as 100. This is shown as a solid line. The broken line is the index curve showing the open posted price of unbranded bulk gasoline at Philadelphia, with 1931 as 100.

If nothing occurred to change the status in Pennsylvania, if the pipelines and other factors were ineffective in altering the price structure, then these 2 lines should go up and down together. You will note that they did for the 2 years 1932 and 1933, although the price of gasoline delivered by tank wagon in the 6 cities did drop slightly relative to the open bulk market at

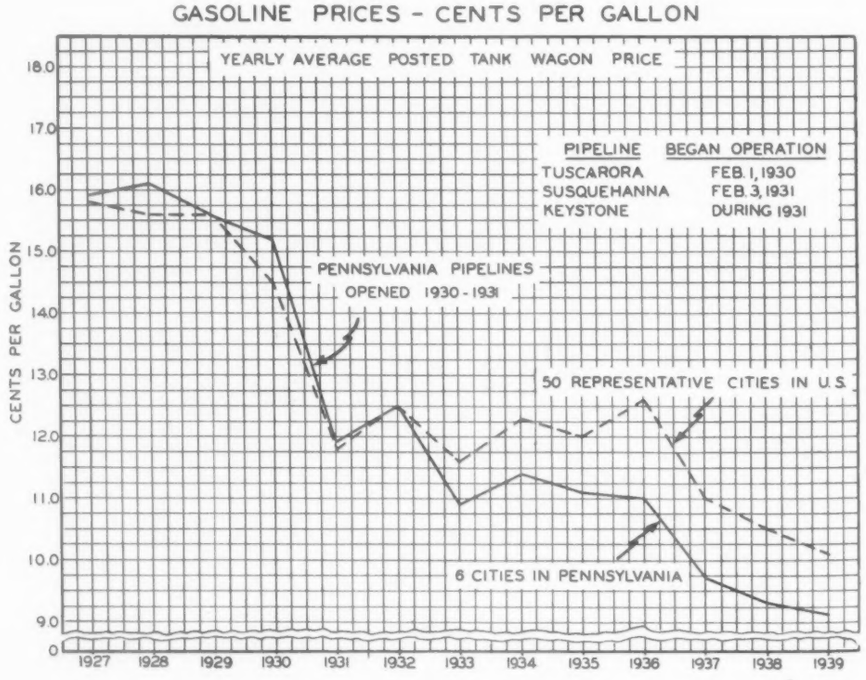


Chart No. 1

He *has* to take chances

A lion tamer risks his life every time he steps into the cage—and faces hundreds of pounds of power and ferocity that may go berserk at any moment. Even a revolver might be inadequate protection. He *has* to take chances.

Many shippers who use drums are taking chances, too—with tampering, leakage and waste. Yet these risks are never necessary. You can make sure *every drop* of your product is safe *every second* by equipping your drums with Tri-Sure Closures.

Tri-Sure Closures have a seal which cannot be removed unless it is deliberately destroyed, a plug which is always held tightly in place, a flange which assures complete drainage. This *triple* protection is *perfect* protection to your product and your reputation—to you and your customers. Be sure every shipment has it. Write today for complete information.

AMERICAN FLANGE & MANUFACTURING CO. INC.
30 Rockefeller Plaza, New York

Tri-Sure

Reg. U. S. Pat. Off.

CLOSURES

Philadelphia. But from 1933 on the effect of the cheaper transportation into the interior part of the State by pipeline became extremely noticeable. By 1939 the index of tank wagon price in the 6 representative cities throughout Pennsylvania had fallen approximately 30% below the index for bulk gasoline on the seaboard at Philadelphia, again showing conclusively and by a different approach, the influence of lower pipeline transportation costs in lowering the price of gasoline to these six cities in Pennsylvania.

In showing this information to one of my associates, who occasionally likes to take the attitude of being "devil's advocate" and to see if he can poke holes in an argument, he said, "Ah, yes, but how about the situation resulting from the installation of the Great Lakes and Phillips Pipe Lines to Chicago?" If our argument is sound and if the method of approach is correct, then a similar situation should exist in the Mid-West as a result of installation of these pipelines.

I hand you herewith chart 3 (see Chart No. 3) which again shows as a broken line the same yearly average posted tank wagon price of gasoline in the 50 representative cities in the U. S. in cents per gallon. This chart also shows as a solid line the yearly average posted tank wagon price of gasoline in 8 cities very likely to be affected by the Great Lakes and Phillips Pipe Lines. The Great Lakes and Phillips Lines were installed during 1931 and the difference between the tank wagon price of gasoline in these 8 representative cities affected by these pipelines and the 50 cities average price is obvious and striking. Perhaps it can best be brought out by the following table:

Amount yearly average posted tank wagon price of gasoline in 8 representative cities affected by the Great Lakes and Phillips Pipe Lines is below similar price in 50 representative cities in the U. S.

Year	
1927	2.0 cents
1928	1.6 cents
1929	1.1 cents
1930	1.6 cents
1931	1.8 cents

And now comes the effect of these two pipe lines:

1932	2.4 cents
1933	2.6 cents
1934	2.1 cents
1935	2.1 cents
1936	2.1 cents

It is again obvious and striking that after these 2 pipelines were built, the price of gasoline in these 8 representative cities dropped ¾ to 1c per gal. as compared to the aveerage in the 50 representative cities in the U. S.

For the record ,the following table shows the list of the 6 representative cities in Pennsylvania chosen for these charts, the list of the 8 cities near the Great Lakes Pipe Lines and the list of the 50 representative cities in the U. S.

Six Cities in Pennsylvania

Pittsburgh	Allentown	Scranton
Philadelphia	Erie	Altoona

Eight Cities Near Great Lakes Pipeline

Muskogee, Okla.	Des Moines, Iowa
Tulsa, Okla.	Davenport, Iowa
Kansas City, Mo.	Chicago, Ill.
Omaha, Nebr.	Minneapolis, Minn.

50 Representative Cities in U. S.

Portland, Me.	Charleston, W. Va.
Manchester, N. H.	Norfolk, Va.
Burlington, Vt.	Charlotte, N. C.
Boston, Mass.	Charleston, S. C.
Providence, R. I.	Atlanta, Ga.
Hartford, Conn.	Jacksonville, Fla.
Buffalo, N. Y.	Birmingham, Ala.
New York, N. Y.	Vicksburg, Miss.
Newark, N. J.	Memphis, Tenn.
Philadelphia, Pa.	Lexington, Ky.
Dover, Del.	Youngstown, Ohio
Baltimore, Md.	South Bend, Ind.
Washington, D. C.	Chicago, Ill.
Detroit, Mich.	Albuquerque, N. M.
Milwaukee, Wis.	Denver, Col.
Twin Cities, Minn.	Casper, Wyo.
Fargo, N. D.	Butte, Mont.
Huron, S. D.	Boise, Idaho
Omaha, Neb.	Salt Lake C'y, Utah
Des Moines, Iowa	Reno, Nev.
St. Louis, Mo.	Phoenix, Ariz.
Wichita, Kan.	San Francisco, Cal.
Tulsa, Okla.	Portland, Ore.
Little Rock, Ark.	Spokane, Wash.
New Orleans, La.	
Houston, Tex.	

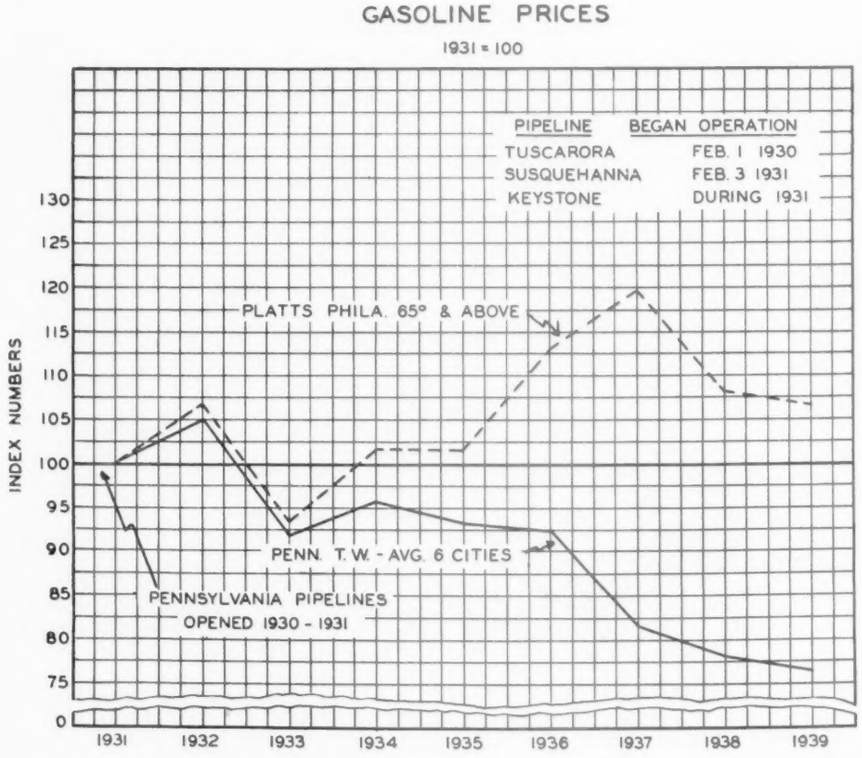


Chart No. 2

It is not only true that reduced transportation costs, brought about by the introduction of pipelines, reduces within a reasonable period of time the price of gasoline, but it is also true that the same result follows any transportation method at lower cost than the existing one. For example, my own company receives heating oils by tanker at New York and ships them to New Haven by barge. Atlantic Refining Co., on the other hand, ships directly to New Haven by ocean tanker. The price of heating oils at New Haven is not predicated on the cost of heating oils to New York by tanker and barge to New Haven, but actually is and has been for a number of years, based on the cost of goods laid down by tanker directly at New Haven, showing that the Atlantic Refining Co. instead of withholding the savings brought about by their ocean terminal at New Haven, passed these on to the trade and in turn forced every one else to meet their price.

The same situation exists at Providence, R. I., where the company with which I am associated does not have an ocean terminal, but does have a terminal capable of taking barges. We are unable to sell certain petroleum products in this area in competition with those having ocean terminals; again showing that those having ocean terminals establish prices based on their low cost of transportation, thus passing their savings on to the public. Another illustration is at Portland, Me., where we originally shipped by barge and others shipped by tanker. Since the price of petroleum products in Portland and vicinity is predicated on the cost of tanker transportation, our business stagnated until we were obliged to sell our barge terminal and build a terminal capable of receiving goods by ocean tanker. Here again the savings in transportation is, to a great degree, passed along to the public in cheaper cost of petroleum products.

Even in the field of reduced cost due to improved tank truck operation, many instances of lower prices due to

improved operation may be given. For example, in New England and West Virginia the Sun Oil Co., utilizing a very efficient truck transportation, carried metropolitan prices far out into the country districts, thereby breaking down a price structure built up on the basis of less efficient tank truck operations. In our own case in the state of New Jersey, we used to have progressively higher tank wagon prices for our gasoline as we delivered it out of Bayway, N. J.—where it is made—to points farther and farther away. As our truck and barge transportation system was improved and made more efficient, these price differentials between Bayway and more distant points were narrowed until they disappeared. Now we have 1 tank wagon price for our gasoline from the New Jersey-New York border on the north to Cape May Court House on the south, a distance of upward of 200 miles.

These illustrations, plus others that could be given prove that transportation savings resulting from more efficient and lower costs, in larg measure are passed along to the public in the form of lower prices. In my testimony of last Tuesday, when asked by Chairman Cole whether I thought that the installation of the Plantation Pipe Line from Baton Rouge, La., through the states of Mississippi, Alabama, Georgia, Tennessee, South Carolina and North Carolina would reduce the price of gasoline to the public, I answered "Yes, inevitably." This is a very strong statement and could only be made that strong when based on much study and an analysis of many past similar situations.

Kentucky Standard's Prices Explained In Letter

All of the railroad witnesses have referred to testimony given by the Traffic Manager of Standard Oil Co. of Kentucky in a proceeding before the Interstate Commerce Commission. This testimony was referred to in the hearings on S. 3753 before a sub-committee of the Senate Committee on Interstate Commerce held May 29th, June 3rd and 13th, 1940. A complete answer to the unqualified use of the statement made by Mr. Stephens is contained in a letter addressed to The Honorable Edwin C. Johnson, chairman of the sub-committee, by W. G. Violette, sales manager of Standard Oil Co. of Kentucky. That letter is found in the report of hearings on S. 3753, page 178, and is here reproduced:

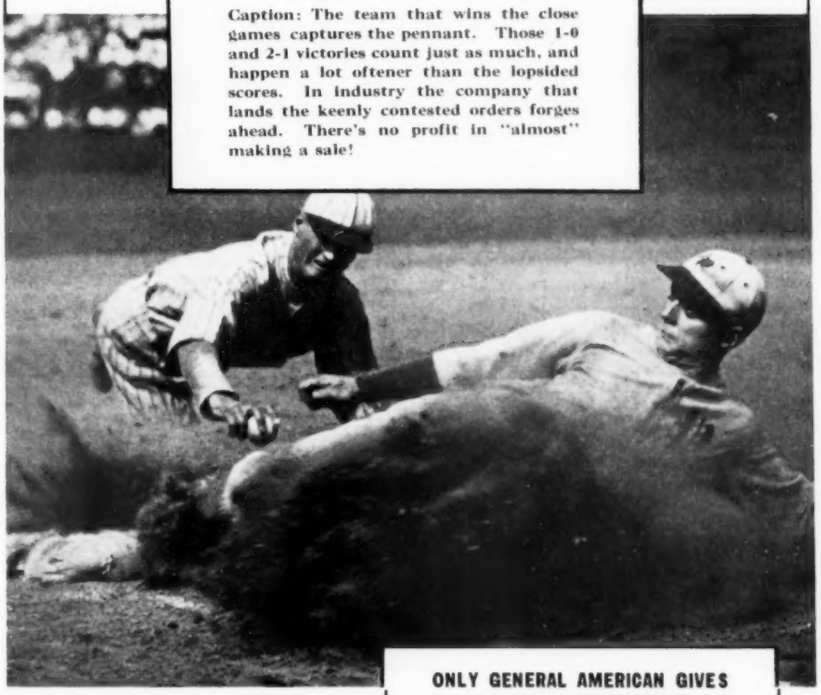
Standard Oil Company
Louisville, Ky.,
June 10, 1940

Hon. Edwin C. Johnson,
United States Senate,
Washington, D. C.

DEAR SIR:

Our attention has been called to some recent testimony before your committee in connection with Senate bill 3753, which testimony referred to

Getting the close ones!



Caption: The team that wins the close games captures the pennant. Those 1-0 and 2-1 victories count just as much, and happen a lot oftener than the lopsided scores. In industry the company that lands the keenly contested orders forges ahead. There's no profit in "almost" making a sale!

When a sale depends on rush delivery, you'll be glad your product is stored with General American. At each of our strategically located terminals, day and night crews are ready to dispatch tankers and trainloads—*fast*. Meanwhile you can know that your bulk liquids are getting the most modern fire-safe, efficient, contamination-p r o o f storage in the world. Terminate your shipping worries, with the 7 exclusive benefits of General American Terminal Service.

ONLY GENERAL AMERICAN GIVES ALL THESE ADVANTAGES:

1. NO CONTAMINATION. Separate pumps, lines, storage zones for dissimilar commodities.
2. MODERN PROTECTION. Latest safety appliances; lowest insurance rates, minimum evaporation losses.
3. RELIABLE CUSTODIANSHIP. Our warehouse receipts are highest type of collateral everywhere.
4. INDEPENDENT OWNERSHIP. Strictest privacy; we do not buy, sell or refine any commodities.
5. NO WHARFAGE. There is no wharfage charge at our own private docks.
6. SPEED WITH SAFETY. Day and night crews complete facilities, eliminate all shipping delays.
7. WORLD'S LARGEST TANK CAR FLEET. One car or hundreds, wherever and whenever needed.

GATX GENERAL AMERICAN

Strategically located to serve you!

GENERAL AMERICAN TANK STORAGE TERMINALS

Goodhope, La. and Westwego, La., (Port of New Orleans)
Corpus Christi, Texas
Carteret, N. J. (Port of New York) Galena Park, Texas (Port of Houston)

A DIVISION OF GENERAL AMERICAN TRANSPORTATION CORPORATION

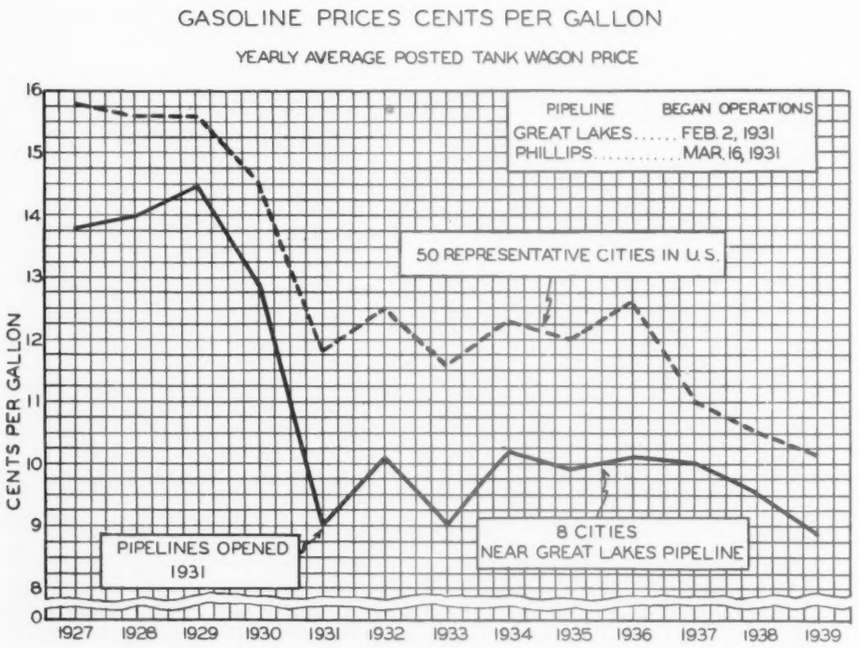


Chart No. 3

certain statements by our Mr. Arthur M. Stephens.

Mr. Stephens is traffic manager of our company and, in that capacity, is not familiar with the basis on which we establish our normal markets or with the many influences that are taken into consideration when arriving at these prices.

We are taking the liberty of writing you and outlining the marketing policy of the Standard Oil Co. (Kentucky) pertaining to the manner in which it arrives at its normal prices on petroleum products, using gasoline, as an example, and to indicate the influence upon such prices by the company's capital investment in water terminals, barges, etc., all of which results in lower transportation costs not only to water terminals but to points supplied therefrom.

The Standard Oil Co. (Kentucky) is a marketing company; it operates no refineries or gasoline pipe lines. It does own and operate water terminals along the Mississippi Gulf Coast, South Atlantic Seaboard, and on the Mississippi and Ohio Rivers. In addition to these water terminals the company also operates many bulk station plants at interior points, located in the states of Kentucky, Mississippi, Alabama, Georgia, and Florida. From all of these bulk station plants and water terminals the company sells, ships, or delivers gasoline in tank cars or tank trucks and other methods of delivery.

In arriving at its prices, for instance on gasoline, it is necessary to take into consideration many things, not only the company's costs, both transportation and marketing for various methods of delivery, but also competitive prices from competitive water terminals; refineries located within or without the company's marketing area, and freight rates. We desire to show, however, in a few concrete examples, which are indicative of our general marketing policy, that our lower transportation costs, water terminals, etc., are reflected in our delivered prices.

In the following examples we have used as a basis our present normal tank-car prices on Crown gasoline; this is our major brand of motor fuel and, incidentally, represents about 75% of the company's total sales of motor fuel. It is our policy to add to the delivered tank-car price a reasonabe amount to cover marketing costs, when arriving at tank-truck deliveries of Crown gasoline to dealers and to consumers. In the examples indicated below, we have shown the tankcar rate of freight in cents per gallon from Group 3, Oklahoma, and from Shreveport, La., and have added to the lower of these two freight rates a price of 4.75c per gal., which we believe is a fair competitive price in tank cars f.o.b. Either Group 3, Oklahoma, or Shreveport, La., on a motor fuel of approximately the same specification as Crown gasoline. We have shown the resultant delivered price, excluding all taxes, and against this have shown our present normal tank-car price on Crown gasoline, delivered at the same point, based upon our making shipment from one of our water terminals:

Atlanta, Ga.: Tank-car freight from Group 3, Oklahoma, 4.29 cents per gallon; from Shreveport, La., 3.56 cents per gallon. Adding to the latter a price of 4.75 cents, F.O.B. Shreveport, La., would make a delivered tank-car price of 8.31 cents per gallon—against our company's present tank-car price on Crown gasoline delivered, Atlanta, Ga., of 7.50 cents per gallon on basis of our making shipment from Savannah, Ga.

Columbus, Ga.: Tank-car freight from Group 3, Oklahoma, 4.29 cents per gallon; from Shreveport, La., 3.43 cents per gallon. Adding to the latter a price of 4.75 cents, F.O.B. Shreveport, La., would make a delivered tank-car price of 8.18 cents per gallon—against our company's present tank-car price on Crown gasoline delivered, Columbus, Ga. of 7.05 cents per gallon on basis of our making shipment from Panama City, Fla.

Athens, Ga.: .Tank-car freight from Group 3, Oklahoma, 4.55 cents per gallon; from Shreveport, La., 3.83 cents per gallon. Adding to the latter a price of 4.75 cents, f.o.b. Shreveport, La., would make a delivered tank-car price of 8.58 cents per gallon—against our company's present tank-car price on Crown gasoline delivered at Athens, Ga., of 7.60 cents per gallon on basis of our making shipment from Savannah, Ga.

Birmingham, Ala.: Tank-car freight from Group 3, Oklahoma, of 4.03 cents per gallon; from Shreveport, La., 3.10 cents per gallon. Adding to the latter a price of 4.75 cents, f.o.b. Shreveport, La., would make a delivered tank-car price of 7.85 cents per gallon—against our company's present tank-car price on Crown gasoline delivered, Birmingham, Ala., of 6.40 cents per gallon —based on shipments being made from Mobile, Ala.

The following are some of the points where the Standard Oil Co. (Kentucky) has water terminals, and we desire to show the influence on prices by water-transportation rates to these water-terminal points:

Savannah, Ga.: Tank-car freight from Group 3, Oklahoma, of 4.88 cents per gallon; from Shreveport, La., 4.22 cents per gallon. Adding to the latter a price of 4.75 cents per gallon, Shreveport, La., would make a total delivered cost of 8.97 cents per gallon, against our present tank-car price on Crown gasoline delivered, Savannah, Ga., of 6.50 cents per gallon.

Panama City, Fla.: Tank car freight from Group 3, Oklahoma, of 4.82 cents per gallon; from Shreveport, La., 3.89 cents per gallon. Adding to the latter a price of 4.75 cents per gallon, Shreveport, La., would make a total delivered cost of 8.64 cents per gallon, whereas our present tank-car price on Crown gasoline, f.o.b. Panama City, Fla., is 6 cents per gallon.

Louisville, Ky.: Tank-car freight from both Group 3, Oklahoma, and Shreveport, La., is 3.17 cents per gallon; adding to this a price of 4.75 cents per gallon Shreveport, would make a total delivered cost of 7.92 cents per gallon—against our present tank-car price on Crown gasoline, f.o.b. Louisville, Ky., of 6.50 cents per gallon.

We believe the data contained herein indicate conclusively that, notwithstanding any statement to the contrary, the company's lower transportation costs into and through water terminals have a very definite and direct bearing on the company's established normal prices.

We sincerely trust that the contents of this letter will be given consideration by your committee.

We are taking the liberty of sending a copy to Hon. Clyde M. Reed and to Hon. H. H. Schwartz.

Yours very truly,

W. G. VIOLETTE.

Without attempting to answer generally the statement made by W.

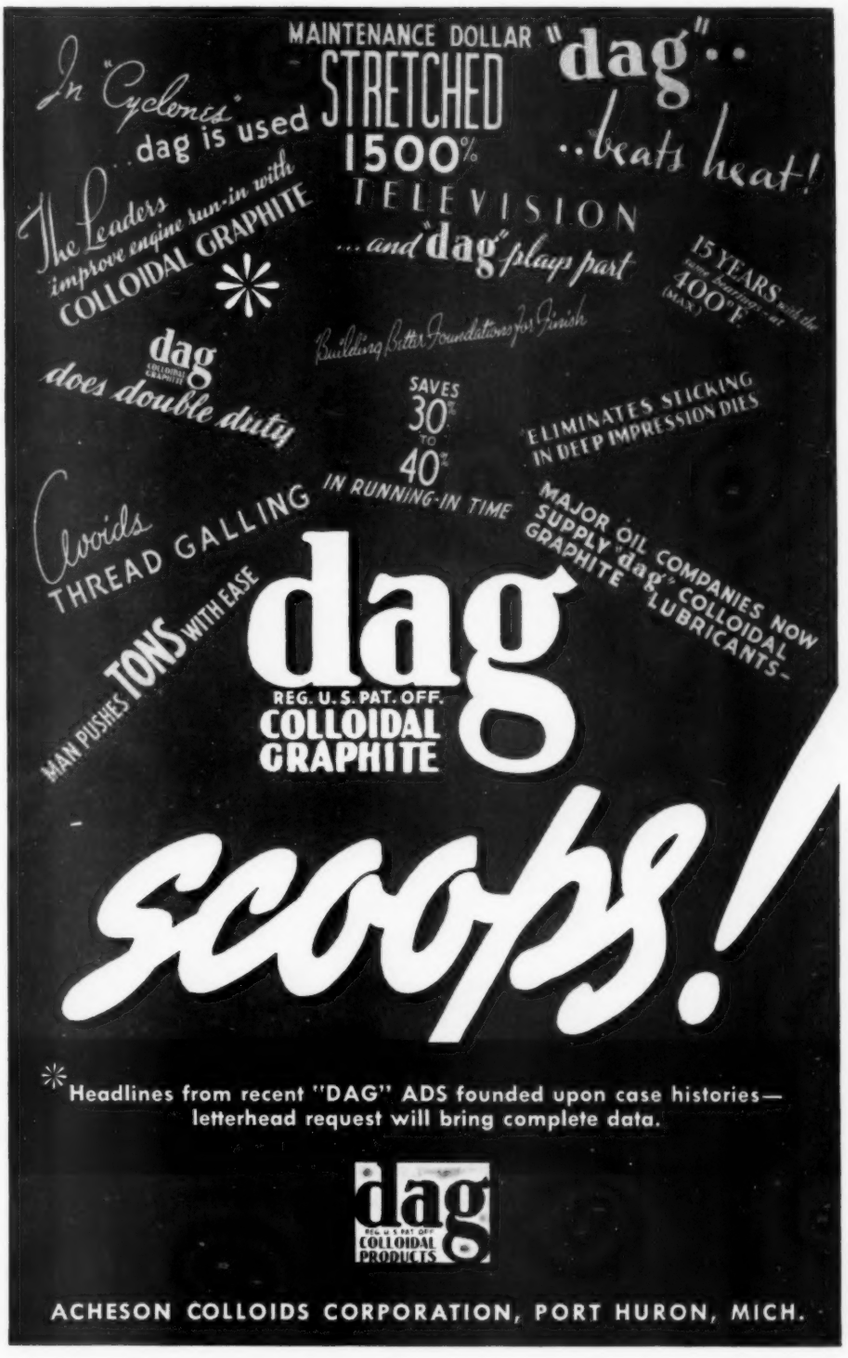
L. Stanley, there are certain inaccuracies in his statement which need to be pointed out. Mr. Stanley questions the ability to transport a variety of petroleum products through one pipeline without a thorough cleansing of the line each time. For a number of years several pipelines have been transporting gasoline, heating oil, and other petroleum products in batches and no cleansing whatever is required, and contamination between different products is negligible. No crude petroleum is to be carried through either of the proposed lines.

Mr. Stanley questioned the ability of steel mills to produce the pipe required without interfering with other national defense requirements. The Southeastern Pipe Line is already laid, except for railway and highway crossings, and the pipe is already available for the unfinished portion. The pipe for the Plantation Pipe Line will be manufactured by a special type of tube mill which is designed only for the purpose of making pipe. Inquiry has developed that the mills can give reasonably prompt delivery of the 100,000 tons of pipe required, and that there is no shortage of steel involved.

Mr. Stanley states that gross revenue for railroads in the southern region for 1939 was $28,273,662 or approximately 6% of total freight revenue. He uses this same percentage as a basis for a loss in employment which he indicates will amount to $20,516,000. Petroleum products are transported in tank-cars and require less labor handling than many other types of freight. There is no factual basis for the conclusion arrived at, but if Mr. Stanley's figures could possibly be correct, then there would seem to be insufficient revenue collected by the railroads to pay the other expenses necessary for operation in moving these petroleum products. In contrast to these statements, Mr. Stanley estimates the ability of the railroads to handle all of the petroleum products moving from Baton Rouge to South Atlantic ports is wholly adequate and would require only 526 tank cars devoted to that movement. He estimates that 9,281 tank cars would take care of all of the tanker movement from all Gulf ports, so that less than 6% of this movement is represented by that from Baton Rouge. The Plantation Pipe Line Company **will not supplant all tanker movement** from Baton Rouge, since it will supply **only the interior areas** of the region. It is apparent that the volume of petroleum business now carried by the railroads, which will be lost to them by reason of the pipeline movement is only a small part of the volumes and revenues indicated by Mr. Stanley. There still will remain a great deal of short haul business from the pipe line terminals as well as from the ports.

Mr. Stanley pictures the ability of the railroads to handle all of the petroleum products required in the southeastern area in the event of interruption of tanker movement. This is only a part of the picture that would be presented by interruption of tanker transportation. The whole Atlantic Seaboard would be affected, and any consideration of available railroad transportation must consider the complete requirements which have been estimated at approximately 440,000,000 barrels for the current year. Using as an average 20 days for a round trip, it has been computed that 86% of all the tank cars in petroleum service would be required to handle this movement. In addition, there is the problem of availability of loading racks and track space at the refineries and at the points of destination. Realizing that all of these factors would have to be considered, it is evident that the simple arithmetical computation made by Mr. Stanley does not answer the problems that would be raised in the event of a national emergency affecting tanker movement to the Eastern Seaboard.

Bearing upon the economic problem presented by the construction of new transportation facilities, is the statement made by Chairman Joseph B. Eastman of the Interstate Commerce Commission made to the sub-commit-


MAINTENANCE DOLLAR "dag"..
In "Cyclones" ..dag is used
STRETCHED 1500%
..beats heat!
The Leaders improve engine run-in with COLLOIDAL GRAPHITE
TELEVISION ...and "dag" plays part
15 YEARS with the same bearings at 400°F. (MAX.)
Building Better Foundations for Finish
dag does double duty
SAVES 30% TO 40% IN RUNNING-IN TIME
ELIMINATES STICKING IN DEEP IMPRESSION DIES
Avoids THREAD GALLING
MAJOR OIL COMPANIES NOW SUPPLY "dag" COLLOIDAL GRAPHITE LUBRICANTS
MAN PUSHES TONS WITH EASE
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REG. U.S. PAT. OFF.
COLLOIDAL GRAPHITE
scoops!
Headlines from recent "DAG" ADS founded upon case histories—letterhead request will bring complete data.
dag
COLLOIDAL PRODUCTS
ACHESON COLLOIDS CORPORATION, PORT HURON, MICH.

tee hearing witnesses on S. 3753 heretofore referred to. Mr. Eastman's statement on page 184 of the printed record contains this pertinent observation:

"When it comes to the protection of one form of transportation against another, it has been my personal view that the construction of new facilities ought not to be prevented on the ground that they will injure existing facilities, where it can be shown that the new proposed facilities are a distinct improvement over those which exist. In other words, if they can perform the service better and cheaper than existing facilities, the public ought not to be deprived of those benefits merely because it may result in some detriment to existing transportation facilities."

Home Heating Costs Told In Booklet

"How much does it cost to heat a house?" is a question answered some 30 times in combined catalog and case history booklet issued by Perfection Stove Co., Cleveland, describing Superflex oil-burning and gas-burning air conditioning furnaces.

Titled, "Superflex Book of Facts on Low Cost Heating," the booklet gives the cost of one or more winter's heating of specific homes, of which floor plans and photographs are given, together with supporting evidence such as actual fuel bills or statements by owners or suppliers of fuel.

SAFETY IN OIL MARKETING

Following safe lubrication practices are published in the "API Accident-Prevention Manual on Operation of Service Stations." Single copies of this manual sell for 25c with special prices on order of 5 or more copies. Manuals may be obtained from American Petroleum Institute, Room 2040, 50 W. 50th St., New York City.

Lubrication Service Lists—

Placing the Car

The car should be guided over the pit, the same precautions applying as in the case of lifts. The vehicle should not cover the pit entirely; room should be left at one end for easy exit of the attendant in case of fire.

Before Lubrication

Before lubrication is started on a car, the brake should be set securely or the wheels chocked. Before the attendant enters the pit, the engine should be stopped. Carbon monoxide from the exhaust of a running motor might accumulate in the pit and cause asphyxiation.

Clean Pits

Pit floors should be kept clean and free of grease, tools, and material. Tools and equipment should be laid well back from the edge of the pit so that they cannot fall into the pit. Drain covers in the bottom of the pit should be kept in place. In order to eliminate or reduce the hazard of slipping, the pit floor should be covered with sawdust or other suitable absorbing material. However, oil-soaked sawdust should not be permitted to accumulate.

Walk, Not Jump

Attendants should not jump across pits; they should walk around them.

Pit Guards

A chain or other light-weight fence should be provided to prevent people from falling into the pit while it is not in use. Signs may be posted to warn that the pit is open.

TIRE SERVICE—

Remove Wheel

It is safer to remove the wheel and tire from the vehicle before an attempt is made to change a tire.

Deflate Tubes

Before the tire is removed from the rim, the tube should be deflated completely; this best can be accomplished by removal of the valve core. Air pressure has caused blowouts when the rim was unlocked while pressure still remained in the tube. Fatalities have occurred because air had not been dissipated entirely before work was started on truck tires.

To Mount the Tube

Before a tube is placed within the tire, it should be inflated slightly, and the rim strip should be adjusted so that the tube will not be pinched when the tire is placed on the rim.

Rim Locks

Before tires are inflated, the rim locks should be made secure, so that pressure from the inflation will not un-

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lock the rim. If available, rim spreaders should be used.

Inflation

For safety precautions during the inflation of tires, see "Air Service," p. 11.

Final Check

Before a job is turned out as finished, a final checkup should be made for the purpose of obviating pinches and blowouts. The tire should be inflated, deflated, and reinflated.

Cool the Ashes

If hot patches have been used, the attendant should be sure that the ashes are cold before he deposits them in the rubbish container.

To Store Tires

Tires should be stored neatly in especially prepared racks. If the tires are in overhead racks, these racks should be arranged so that their corners will not constitute a hazard where attendants or customers may bump their heads. A ladder should be used if tires are to be taken out of the overhead rack.

CAR WASHING—

To Place the Car on the Lift

If washing is to proceed on the lift, the car should be placed in such a position that it cannot slip off the front end of the lift. Lift equipment should be checked at frequent intervals to keep it in proper working condition.

Rubber Blanket

After the car has been washed, the rubber blanket which was used to protect the motor during washing should be removed before the motor is started.

Stand in the Clear

Only the attendants performing the work should be permitted around a washing job. Others might be struck with a stream of water from a hose, or with hot water, or with mud particles washed from the car.

CRANKING—

Gears and Brake

If it is necessary to crank a motor vehicle, the service-station attendant should make certain that the emergency brake is set, that the gear-shift lever is in neutral, and that the spark is retarded.

To Crank

The crank should be grasped with the thumb back of the crank handle, and not around it. The pull on the crank should be upward—and the motor should be started, if possible, by several of these quick upward pulls. Spinning of the motor should be done with the thumb in the same position, and spinning should be started with the upward pull—not with a rocking motion or downward thrust. If the thumb is in the correct position, as described, should a backfire occur the crank will slip out of the hand without injury to arm, wrist, or thumb.

Truck Motors

Service-station attendants should not crank the motor of a truck. Truck motors are difficult to start, and experienced truck drivers only should crank them.

MAINTENANCE OF YARDS AND BUILDINGS—

Maintenance

Eternal vigilance and continuous maintenance are required to keep to a minimum the physical hazards in a service station. Indifferent and inefficient maintenance quickly results in conditions unsafe for both the attendant and the customer.

Sidewalks and Yard

Sidewalks, approaches, and the yard should be maintained in first-class condition. They should be kept clear of obstructions, slipping and tripping hazards, nails, broken glass, snow, and ice. Holes or dangerous depressions should be repaired immediately. Snow should be shoveled away quickly, and sand or salt should be used to reduce hazards from ice. Snow which has been removed from service-station premises should not be piled in the street, particularly not at intersections where pedestrians cross or where such piles may cause crowding of cars, thus resulting in accidents. Hosing or flushing of driveways should not take place during freezing temperatures.

Windows

Any window which opens outward should not be opened so far that passersby could bump into the protruding part.

Fill Pipes

Fill pipes to underground storage tanks should be marked plainly, indicating the product contained in the tanks. Care should be exercised to see that products are not dumped into the wrong tanks, so as to avoid mixing of products. Serious fires and explosions have resulted from mixtures which were created by the dumping of gasoline into fuel-oil and kerosine tanks. Fill pipes should not be located inside the service-station building, nor within 5 ft., in any direction, of any opening to the building. These openings include windows, doors, skylights, and the like.

Fill-Pipe Covers

Cover plates for fill pipes to underground storage tanks should be kept adjusted, and should fit tightly, flush with the yard or sidewalk. This is particularly essential if the tanks are located along thoroughfares.

Tank Vents

As fire-protection measures, the vent pipes of underground storage tanks should be sufficiently large (1¼-in. diameter or larger), and they should extend in the open 12 ft. or more above the ground. If they are attached to buildings, they should extend at least 1½ ft. above the roof. The opening or upper end of the vent pipe should not be located under a canopy, nor within 3 ft. of each side of a door or window. In any event, the vent should be a safe distance from any source of ignition. Each tank should have a separate vent line.

Tank Gage Openings

If a tank is equipped with a gage opening separate from the fill opening, this gage opening should be closed

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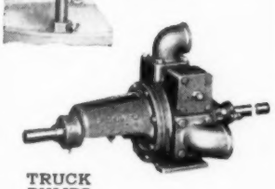
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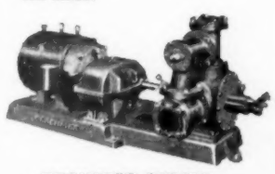
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tightly while tank is being filled, so that the vapors will escape through the vent pipe.

Floors

Periodic washings are required to keep the floors of the station building, of the lubrication unit and stock room, as well as of the pump driveway, free of grease and oil. Soap powders, special cleaning agents, and water may be used for this purpose; but, inasmuch as they tend to make cement floors slippery, it is better to use rice hulls moistened with cleaning solvent (Stoddard solvent) or kerosine for the removal of grease spots and oil from the floors. Under no circumstances should gasoline be used for cleaning the floors. For the safety of customers it is best to wash floors when patronage is at the low point for the day.

Doors

Rest-room doors and doors to building in the station should open and close freely. Attendants and customers have been injured when the glass in the door broke while they were trying to force open a door which was stuck. Doors leading to basement should be locked and should be marked with a small danger sign, because frequently such doors are mistaken for rest-room doors. Trap doors should be fastened securely.

Electric-Light Bulbs

Serious cuts have resulted when lamp bulbs broke while they were being placed into or removed from receptacles. Gloves or a cloth should be used to protect the hands.

Electric Fuses

To avoid shock or burn, the electric switch should be opened before fuses are pulled or replaced. The new fuse should be of the same rated capacity as the one replaced. A fuse acts as a safety valve when the circuit is overloaded or short-circuited; therefore, it should not be replaced with a heavier fuse nor with a piece of wire, a penny, or other material.

Electric Switches

Electric switches should be maintained in good condition. Switch boxes should not be used for the storage of materials.

Furniture

Broken furniture—especially broken chairs—should be removed or repaired immediately. Glass covers should not be used on desks or tables.

Signs

Hanging signs should be inspected at regular intervals to be certain that they will not fall. Rest-room signs and other small signs should be hung high enough to permit the average person to walk under them.

Customers should be protected while construction or repair work proceeds. Warning signals should be posted or the driveway should be blocked. If necessary, "fresh-paint" signs should be posted.

TOOLS AND EQUIPMENT—

Air Compressor

The motor switch should be turned off before anyone oils, wipes, or works on the air compressor.

Air-Pressure Gage

The pressure gage on the compressed-air tank should be inspected daily to see that allowable pressures are not exceeded and that the kickoff pressure is normal. If a checkup on the outside hose indicates the gage is not working properly, the discrepancy should be reported at once so that an adjustment will be made.

Air Safety Valve

The safety valve should not be tampered with nor adjusted by service-station attendants. Adjustments and repairs should be done by authorized maintenance men only. Safety valves should be tried daily to see that they operate. Fatal injuries and serious property damage have resulted from explosions of air-pressure tanks when the safety valve or kickoff switch failed to work. After the compressor has been used for some time, it should be inspected to see that the relief valve has not become stuck or the check valve kept open by corrosion or ice.

Air Tank

The air tank should be drained at least once a week for the removal of any accumulation of oil or water, or both.

Air-Compressor Moving Parts

To protect customers and service-station attendants against being caught by moving parts, it is preferable to install the air compressors so that the moving parts will be against the wall. If this is not possible, the belt pulleys and other moving parts should be covered with an adequate guard. If the moving parts do not face the wall and are not guarded adequately, the condition should be reported and corrected.

Socket Wrenches

Spark-plug and socket wrenches not in first-class condition should be disposed of. Rounded and cracked sockets slip easily, injuring the hands and frequently breaking the porcelain of the spark plugs. To prevent slipping, care should be taken to see that the spark plugs or nuts fit firmly in the sockets.

Crescent and End Wrenches

To prevent slipping, oil or grease should be removed from the jaws of a crescent or end wrench before the wrench is used. A greasy nut or plug should be wiped before an attempt is made to tighten or remove it. Crescent and end wrenches should be inspected frequently for cracked, sprung, or mushroomed jaws, as defective wrenches slip easily. If the damaged part cannot be replaced, the wrench should be disposed of. A correct wrench should be used; e.g., a small wrench should not be used for a heavy pull. Whenever a crescent, end, socket, or box-socket wrench is used, the pressure should be applied in the direction away from the user, and the user's fingers should be guarded against injury in case the wrench slips.

Chisels

The heads of chisels and punches should be kept dressed, so that flying pieces from mushroomed heads will not cause injury.

Hammer Handles

Hammer handles should be replaced if they have become broken or split. A hard-wood stick, not the handle of a hammer, should be used for the purpose of driving out wheel bearings.

Ladders

The user should consider the dangers inherent in the use of a ladder. Following are instructions for the correct use of ladders:

1. A ladder should not be placed in front of a door which opens toward the ladder, unless the door is open, locked, or guarded.
2. The footing of the ladder should be secure. The ladder should stand on solid ground, and not on top of loose objects.
3. There should be a guard around the foot of the ladder, or the ladder should be placed in such a position that trucks, cars, or people cannot run into it.
4. A stepladder should be opened to its full width so that the spreader will lock itself open.
5. It is safer to stand at least two steps from the top of a stepladder, instead of on the top.
6. When a ladder is being ascended or descended, the user should face the ladder. The user should not slide down a ladder, he should step down. While the user is on the ladder, he should lean neither backwards nor sideways; first he should descend, and then move the ladder.
7. Defective ladders should not be used; e.g., broken or weakened ladders, or those with missing rungs. If a defective ladder cannot be repaired so that the ladder again will be in first-class condition, it should be disposed of.
8. Care should be exercised if a ladder is carried through a doorway or around a blind corner. The person who carries the ladder should be certain that the end in front of him is tipped upward sufficiently high to clear the head of an approaching person. If the man who is carrying the ladder wishes to turn around, he should be sure first that the ends will clear all persons or objects in the vicinity.
9. Wooden ladders should not be painted, and they should be kept free of paint splashes, because paint might conceal defects. One or more coats of linseed oil will protect ladders against the weather.
10. When not in use, ladders should be stored in a safe place. They should not be laid on wet ground, nor placed anywhere else where they may get wet, because a water-soaked ladder may break without warning. Ladders should not be stored where the direct rays of the sun will shine on them. Neither should they be left on the floor or ground where they can be run over and broken, or where somebody may stumble on them and fall.

MARKETS

Gulf

NEW YORK, May 24—Uncertainty over prices for refined products prevailed at the Gulf following advances in crude postings in that area by many companies the middle of the past week, according to reports here and from the Southwest. Several sources said they expected increased prices to follow, while others commented that although crude advances normally would be reflected in prices of finished products, the boat situation might prevent rises at the present.

One refiner reported general advances of 0.25c in his gasoline and 0.125c in his gas oil quotations. Another said he had withdrawn from the market until early next week, "until we see what's going to happen."

Lower prices for 68 oct. unleaded gasoline were reported during the week, with low quotations down 0.125c to 5.625c. An export inquiry for 25-30,000 bbls. of this grade, 400 e.p., in steel drums, was reported, but neither date of lifting nor destination was revealed.

Inquiry for a 16,000-bbl. double barge lot of 74-76 oct. (CFR) leaded gasoline for lifting within 10 days, shipment up the Mississippi, was reported, and an 8000-bbl. barge lot of this grade for Mississippi river shipment was reported sold at 6c with lifting said to have been made May 22.

Other gasoline inquiries were for 8000-bbl. barge lot of 80-82 oct. Ethyl, lifting in 10 days and shipment up the Mississippi, and 75-80,000-bbl. cargo of min. 80 oct. (research), late May-early June lifting, for which buyer was said to have a boat.

Mid-Western

CHICAGO, May 24—Quotations reported the past week by refiners and tank car marketers in Chicago for most refined products were up 0.05 to 0.5c.

Group 3 quotations reported by refiners ranged from 5.375 to 6c for 72-74 oct. gasoline, 5 to 5.625c for 63-66 oct., 4.625 to 5.25c for 60 oct. and below; one refiner reported quoting 6.625c for 80-82 oct.

Group 3 quotations reported by tank car marketers ranged from 5.50 to 6.125c for 80-82 oct. Ethyl gasoline, 5.125 to 5.25c for 72-74 oct., 4.625 to 4.875c for 63-66 oct., and 4.50 to 4.625c for 60 oct. and below.

Gasoline shipments continued heavy against contracts, according to reports. Several refiners said "We are out of the gasoline market indefinitely", while others reported they were "shipping everything we can possibly make."

Open spot gasoline sales reported by three tank car marketers during the week were: 6 cars of 80-82 oct. Ethyl at 5.50c; 10 cars of 72-74 oct., 6 cars at 5c and 4 cars at 5.125c; 2 cars of 63-66 oct. at 4.625c, FOB Group 3.

Other open spot sales reported by tank car marketers were: 1 car of 72-74 oct. at 7.25c and 1 car of 60 oct. and below at 6.625c, FOB Chicago district refinery; 2 cars of U.G.I. gas oil at 4.60c and 5 cars of Bunker "C" at 3.79c, delivered Chicago.

Mid-Continent

TULSA, May 24—Prices for gasoline were up 0.125 to 0.375c in Oklahoma, according to reports of refiners the past week.

Demand for gasoline continued heavy, refiners said. Reports of tank car scarcity also were heard. One Oklahoma refiner said he was restricting shipments of gasoline and other products to regular customers, those who have purchased "at least 1 car per month over last 6 months." Several refiners said they had "under consideration plans to restrict shipments to regular customers."Another said he had not renewed contracts to sell "several million gallons yearly."

Sales of 3 cars of Grade 26-70 natural gasoline were reported at 3.375c, FOB Group 3, by one seller late in the week, 0.125c higher than last reported sales price. Two other sellers reported quoting 3.375c, and one, 3.50c, FOB Group 3. No open spot sales were reported FOB Breckenridge; two sellers reported quoting 3c.

Prices for bright stock were higher, according to refiners' reports. Sales of 8 cars 150-160 vis. D bright, 0-10 pour point, at 17c were reported by one refiner. Quotations for 150-160 vis. D ranged from 16.50 to 18c for 0-10 pour, 16 to 17.50c for 10-25 pour, for 150-160 vis. E, 15.50 to 16c and for 120 vis. D, 0-10 pour, 16 to 16.50c.

Pennsylvania

CLEVELAND, May 24—Prices for nearly all refined products were reported higher by western Penna. refiners the past week, with gasoline and kerosine up 0.125 to 0.5c per gal., lubes up 2 to 4c per gal., and wax up 0.5c per lb.

Reports indicated no letup in heavy demand for neutral oils. Sale to a resale agent of compounded motor oil with 200 vis. neutral priced at 33.50c and bright stock at 18c was reported early in the week. Quotations reported by refiners late in the week for 25 pour test oils ranged from 29 to 31c for 200 vis. neutral, and 20c for bright stock. Refiners said their neutral quotations were for limited sale to regular jobber and compounder customers only.

"It's staggering when you contemplate the quantities of motor oils some of these new airplane and tank manufacturers are going to use for testing purposes when they get into production," one source commented. "We hear that one new airplane manufacturer alone will use 320,000 gals. a month," he added.

California

LOS ANGELES, May 24.—Advances were reported the past week on practically all petroleum products on West Coast markets, following advance in crude prices and increase of 0.5c per gal. on all grades of gasoline by Standard Oil Co. of California, effective May 23.

Suppliers said they were asking from 0.125 to 0.25c per gal. more for cargoes of gasoline. Quotations reported were 6 to 6.25c for 375 e.p. blend, 70 octane; 5.875 to 6.125c for 390 e.p. blend, 68 octane; 5.50 to 5.875c for 400 e.p. blend, 65 octane, and 5.25 to 5.5c for U. S. Motor, 60 octane minimum.

Grade C fuel oil, Pacific specification 400, was reported quoted at $0.85 per bbl. for cargoes, an advance of 10c per bbl. over previous quotations.

In the domestic market, rack prices for third grade gasoline were reported generally advanced 0.5c per gal., with a minimum of 6.5c per gal. at most independent plants in the Los Angeles Basin. Minimum rack prices at these plants were said to be 7.25c for leaded gasoline and 8.25c for Ethyl.

Atlantic Coast

NEW YORK, May 24—Higher prices for gasoline at northern and central seaboard points were reported by suppliers during the week ended May 24, with stocks said to be held closely. Typical trade comment was that "everyone is holding on to everything he has."

Both 68-70 and 72-74 oct. were reported 0.5c higher at New York, at 7.50c tank cars and 7.25c barges, and 0.25c higher at Boston at 8c.

At other north and central Atlantic points, 72-74 oct. was reported up 0.125 to 0.75c. One supplier of this grade who last week announced his withdrawal from the market at New York and Philadelphia because of limited supplies said that he had now withdrawn from all points except Baltimore and Norfolk.

Min. 80 oct. ('39 research) was reported up 0.1c at New York to 8c for both tank car and barge lots. One source reported "heavy bidding" for this grade at the harbor at 8.25c but said that no suppliers were willing to sell to new customers at that price.

REFINERY and SEABOARD PRICES

In bulk lots by Motor Transport, Tank Car, Barge or Tanker as shown

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

HOW PRICES ARE REPORTED—

Refinery and Seaboard prices in National Petroleum News are gathered by PLATT'S OILGRAM and are as published in the Monday issue of the OILGRAM.

PLATT'S OILGRAM is a reporting service issued in three identical editions daily from News Bureaus at New York, Cleveland, and Tulsa, Okla. PLATT'S OILGRAM gathers and publishes what its publisher and representatives believe to be accurate news of sales, prices and current happenings affecting the oil industry and that will be of interest to its subscribers. As this information is usually private, OILGRAM reports it according to what it is able to obtain from sources deemed reliable.

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Prices shown in the tables are quotations (meaning sellers' general offers or posted prices), or actual sales prices, reported to OILGRAM by refiners for "open spot" transactions, except as otherwise specified.

Prices arrived at by discounts off a specified price or "market date of shipment," prices named in contracts or prices arrived at in accordance with any arrangement made prior to date of sale, are not for "open spot" transactions and therefore are not considered in making the price tables. Prices made to brokers and prices in "Inter-refinery" transactions are also not considered except as may be noted.

All prices are for "immediate" shipment except in Gulf Coast bulk transactions where shipment is generally to be made in ninety days. Prices are FOB refineries, pipelines, or tanker terminals in districts designated.

Prices shown are for quantities in bulk such as tank car lots, motor transport lots or barge lots; and in cents per gallon: heavy fuel oils are in dollars per barrel of 42 U.S. gallons; wax and petrolatums are in cents per pound. Prices applying to barges or cargoes only are so designated.

Prices do not include taxes or inspection fees. Prices are published at the close of the business day.

Mid-Western prices in the tables were gathered from refiners with offices located in Chicago and the surrounding territory. While the prices are quoted on a Group 3 (Oklahoma) freight basis, this is in accordance with the custom of the oil industry which uses Group 3 as a price basis for the ease of comparing prices even when the material originates in another refining district. Other refinery prices are given by and for the particular refining district where the material is made and from which it is shipped.

When prices obtained by OILGRAM do not conform to these conditions the exception and the new conditions are noted in the news lead or in conjunction with the price table by footnote or otherwise, for the particular refinery or sales district involved.

Crude oil and products covered by OILGRAM'S news and price service, except where noted, have been represented to the publisher as fully up to the customary trade specifications indicated and according to the generally accepted methods of test: and all crude oil and all products thereof as having been lawfully produced and transported.

Any apparent error should be reported to the nearest OILGRAM or National Petroleum News office at once as no correction will be made after the second issue of the OILGRAM or National Petroleum News following its publication.

Summary of Daily Gasoline Prices (May 20 to May 26)

	Latest Prices Monday May 26	Friday May 23	Thursday May 22	Wednesday May 21	Tuesday May 20
U. S. Motor, (ASTM octane)					
80-82 octane Ethyl:					
Oklahoma	6.125– 7.125	6.125– 7.125	6.00 – 7.00	5.875– 6.50	5.875– 6.50
Mid-Western (Group 3 basis)	6.625 (1)	6.625 (1)	6.375 (1)	6.375 (1)	6.25 (1)
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	6.625 (2)	6.50–6.625 (2)	6.375 (2)	6.375 (2)	6.25–6.375 (2)
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	6.625 (1)	6.625 (1)	6.50 (1)	6.50 (1)	6.50 (1)
72-74 octane:					
Oklahoma	5.625– 6.125	5.375– 6.125	5.375– 6.00	5.25 – 6.00	5.25 – 5.625
Mid-Western (Group 3 basis)	5.375– 6.00	5.375– 6.00	5.30 – 6.00	5.30 – 6.00	5.25 – 5.625
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.50 – 6.125	5.125– 6.00	5.125– 6.00	5.125– 5.875	5.125– 5.875
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.625	5.375– 5.625	5.375– 5.50	5.25 – 5.50	5.25 – 5.50
63-66 octane:					
Oklahoma	5.25 – 5.75	5.00 – 5.75	5.00 – 5.625	4.875– 5.625	4.875– 5.25
Mid-Western (Group 3 basis)	5.00 – 5.625	5.00 – 5.625	4.90 – 5.625	4.90 – 5.625	4.875– 5.25
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.00 – 5.75	4.625– 5.625	4.625– 5.625	4.625– 5.50	4.625– 5.50
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.25	5.00 – 5.25	5.00 – 5.125	4.875– 5.125	4.875– 5.125
60 octane & below:					
Oklahoma	4.875– 5.375	4.625– 5.375	4.625– 5.25	4.50 – 5.25	4.50 – 4.875
Mid-Western (Group 3 basis)	4.625– 5.25	4.625– 5.25	4.50 – 5.25	4.50 – 5.25	4.50 – 4.875
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.75 – 5.375	4.375– 5.25	4.375– 5.25	4.375– 5.125	4.375– 5.125
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.875	4.625– 4.875	4.625– 4.75	4.50 – 4.75	4.50 – 4.75
Motor Gasoline, 72-74 octane (ASTM)					
New York harbor	7.50 – 8.00	7.50 – 8.00	7.50 – 8.00	7.50 – 8.00	7.50 – 8.00
New York harbor, barges	7.25 – 8.00	7.25 – 8.00	7.25 – 8.00	7.25 – 8.00	7.25 – 8.00
Philadelphia district	7.50 – 8.00	7.50	7.50	7.50	7.50
Baltimore district	7.50–8.00 (2)	7.50 (2)	7.50 (2)	7.50 (2)	7.50 (2)
Motor Gasoline:					
Western Penna. Bradford-Warren:					
Min. 80 Oct. ('39 Research)	7.50 (2)	7.50 (2)	7.50 (2)	7.50 (2)	7.50 (2)
74-76 Oct. (ASTM)	7.25 (1)	7.25 (1)	7.25 (1)	7.25 (1)	7.25 (1)
74-76 Oct. (L-3)	7.00 (2)	7.00 (2)	7.00 (2)	7.00 (2)	7.00 (2)
Western Penna. Other Districts:					
Min. 80 Oct. ('39 Research)	7.50 (1)	7.50 (1)	7.50 (1)	7.50 (1)	7.50 (1)
74-76 Oct. (ASTM)	6.75 – 7.25	6.75 – 7.25	6.75 – 7.25	6.75 – 7.25	6.75 – 7.25
74-76 Oct. (L-3)	6.75–7.00 (2)	6.75–7.00 (2)	6.75–7.00 (2)	6.75–7.00 (2)	6.75–7.00 (2)

REFINERY PRICES

Gasoline—U. S. Motor (ASTM Octane) except where otherwise specified

Prices Effective	May 26	May 19
OKLAHOMA		
80-82 oct. Ethyl	6.125– 7.125	5.75 – 6.375
72-74 oct.	5.625– 6.125	5.25 – 5.625
63-66 oct.	5.25 – 5.75	4.875– 5.25
60 oct. & below	4.875– 5.375	4.50 – 4.875
60-62 400 e.p.	4.875 (2)	4.50–4.625 (2)
MID-WESTERN (Group 3 basis)		
80-82 oct. Ethyl	6.625 (1)	6.25 (1)
72-74 oct.	5.375– 6.00	5.25 – 5.625
63-66 oct.	5.00 – 5.625	4.875– 5.25
60 oct. & below	4.625– 5.25	4.50 – 4.875
N. TEX. (For shpt. to Tex. & N.'M. dest'ns.)		
80-82 oct. Ethyl	6.625 (2)	6.25 (2)
72-74 oct.	5.50 – 6.125	5.125– 5.75
63-66 oct.	5.00 – 5.75	4.625– 5.375
60 oct. & below	4.75 – 5.375	4.375– 5.00
60-62, 400 e.p.	5.00–5.50 (1)	4.625–5.00 (1)
W. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
80-82 oct. Ethyl	6.625 (1)	6.375 (1)
72-74 oct.	5.625	5.25 – 5.375
63-66 oct.	5.25	4.875– 5.00
60 oct. & below	4.875	4.50 – 4.625
CENT. W. TEX. (Prices to truck transports)		
80 oct. & above	6.50 (1)	6.25 (1)
72-74 oct.	5.50 (1)	5.25 (1)
67-69 oct.	5.00 (1)	4.75 (1)
62 oct. & below	4.75 (1)	4.375 (1)
AMARILLO, TEX. (For shpt. to W. Okla. & Tex. differential territory.)		
60 oct. & below	5.125–5.375 (2)	4.75–5.00 (2)
60-62, 400 e.p.	5.375–5.625 (1)	5.125 (1)

Prices Effective	May 26	May 19
KANSAS (For Kansas destinations only)		
80-82 oct. Ethyl	6.875 (1)	6.50 (1)
72-74 oct.	5.875– 6.00	5.375– 5.625
63-66 oct.	5.50 – 5.625	5.00 – 5.25
60 oct. & below	5.125– 5.25	4.625– 4.875
ARK. (For shipment to Ark. & La.)		
72-74 oct.	5.625 (1)	5.25 (1)
70-72 oct.	5.50 (1)	5.125 (1)
60 oct. & below	5.125 (1)	4.75 (1)
WESTERN PENNA. (Motor gasoline.)		
Bradford-Warren:		
Min. 80 oct. ('39 research)	7.50 (2)	7.50 (2)
74-76 oct. (ASTM)	7.25 (1)	7.25 (1)
74-76 oct. (L-3)	7.00 (2)	6.75–7.00 (2)
Other districts:		
Min. 80 oct. ('39 research)	7.50 (1)	7.50 (1)
74-76 oct. (ASTM)	6.75 – 7.25	6.50 – 7.25
74-76 oct. (L-3)	6.75–7.00 (2)	6.75–7.00 (2)
CENTRAL MICHIGAN (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group)		
U.S. Motor: (Oct. L-3):		
72-74 oct.	7.50 – 8.00	7.50
67-69 oct.	7.00	6.75 – 7.00
Str. run gasoline, excluding Detroit shpt.	5.75 – 6.00	5.50 – 5.75
OHIO (S. O. Ohio quotations for statewide delivery and subject to exceptions for local price disturbances)		
72-74 oct.	7.875	7.75
CALIFORNIA U.S. Motor:		
58-61 grav., 375-400 e.p., 65 oct. & above	7.00 – 7.25	6.50 – 6.75
54-58 grav., for outside state shipment	6.50 – 6.75	6.00 – 6.25
54-58 grav., for instate shipment	6.50 – 6.75	6.00 – 6.25

Kerosine, Gas & Fuel Oils

Prices Effective	May 26	May 19
OKLAHOMA		
41-43 grav. w.w.	4.375– 4.75	4.25 – 4.50
42-44 grav., w.w.	4.50 – 4.875	4.375– 4.625
Range Oil	4.00 – 4.375	3.875– 4.125
No. 1 P.W.	3.875– 4.125	3.75 – 4.125
No. 1 straw	3.50–4.25 (2)	3.375–3.75 (2)
No. 2 straw	3.50 – 3.75	3.375– 3.625
No. 2 dark		3.25 (1)
U.G.I. gas oil	3.25–3.50 (2)	3.25 (2)
No. 3 fuel	3.375– 3.625	3.25 – 3.375
No. 6 fuel	$0.70–$0.80 (2)	$0.70–$0.75 (2)
14-16 fuel	$0.95 (2)	$0.90 (2)
MID-WESTERN (Group 3 basis)		
41-43 grav. w.w.	4.375– 4.75	4.25 – 4.50
42-44 grav. w.w.	4.50 – 4.875	4.375– 4.625
Range Oil	3.875 (1)	3.875 (1)
No. 1 p.w.	3.75 – 4.125	3.75 – 4.00
No. 2 straw	3.375– 3.625	3.375– 3.50
No. 3	3.25 – 3.50	3.25 – 3.375
No. 5	$0.85 (1)	$0.80 (1)
No. 6	$0.80–$0.85 (2)	$0.75–$0.80 (2)
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
41-43 grav. w.w.	4.00 – 4.875	4.00 – 4.75
No. 1 P.W.	4.125–4.375 (2)	3.875–4.125 (2)
AMARILLO, TEX. (For shpt. to W. Okla. & Tex. differential territory.)		
41-43 grav. w.w.	4.75–5.00 (2)	4.75–5.00 (2)
No. 1 straw	4.00 (1)	4.00 (1)
KANSAS (For Kansas destinations only)		
41-43 grav. w.w.	4.625 (1)	4.375 (1)
42-44 gravity w.w.	4.75 – 4.875	4.50 –4.625
No. 1 p.w.	4.00–4.25 (2)	3.875–4.125 (2)
No. 6 fuel	$0.85–$0.90 (2)	$0.80–$0.85 (2)

REFINERY PRICES (Continued)

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

Kerosine, Gas & Fuel Oil

(Continued)

Prices Effective	May 26	May 19
ARK. (For shipment to Ark. and La.)		
41-43 grav. w.w.	4.50 (1)	4.50 (1)
No. 1	3.875 (1)	3.875 (1)
No. 2	3.25 (1)	3.25 (1)
No. 3 fuel	3.25 (1)	3.25 (1)
Tractor fuel, for shpt. to Ark. points only	4.75 (1)	4.75 (1)
WESTERN PENNA.		
Bradford-Warren:		
45 grav. w.w.	5.50 – 5.75	5.375– 5.50
46 grav. w.w.	5.875 (1)	5.625 (1)
No. 1 fuel	5.50 (2)	5.125– 5.50
No. 2 "	5.50 (2)	5.00–5.50 (2)
No. 3 "	5.50 (1)	5.50 (1)
36-40 gravity	5.375 (1)	5.375 (1)
Other districts:		
45 grav. w.w.	5.375– 5.625	5.25 – 5.50
46 grav. w.w.	5.375– 5.625	5.375– 5.625
47 grav. w.w.	5.50 – 5.75	5.50 – 5.75
No. 1 fuel	5.125– 5.25	5.125– 5.25
No. 2 "	5.125– 5.25	5.125– 5.25
No. 3 "	5.00 – 5.25	5.00 – 5.25
36-40 grav., Pittsburgh dist. prices excluded	4.875– 5.25	4.875– 5.25
CENTRAL MICHIGAN (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group.)		
47-49 gravity w.w.	5.55 – 6.00	5.50 – 6.00
P.W. Distillate	5.50	5.50
No. 3 gas oil, Straw	5.00 – 5.25	5.00 – 5.25
U.G.I. gas oil	4.25 – 4.50	4.25 – 4.50
Fuel Oils (Vis. at 100)°		
300-500 Vis.	4.00–4.25 (2)	4.00 (2)
100-300 Vis.	4.50 (1)	4.50 (1)
OHIO (S. O. Ohio quotations for statewide delivery)		
Kerosine	6.125	6.125
CALIFORNIA		
40-43 grav. w.w.	4.50 – 6.00	4.50 – 6.00
San Joaquin Valley:		
Heavy fuel	$0.75	$0.70 –$0.75
Light fuel	$0.75	$0.75
Diesel fuel	2.75 – 4.00	2.75 – 4.00
Stove dist.	2.75 – 4.00	2.75 – 4.00
Los Angeles:		
Heavy fuel	$0.65 –$0.75	$0.60 –$0.65
Light fuel	$0.70 –$0.75	$0.65 –$0.75
Diesel fuel	2.75 – 4.00	2.75 – 4.00
Stove dist.	2.75 – 4.00	2.75 – 4.00
San Francisco:		
Heavy fuel	$0.80	$0.80
Light fuel	$0.90	$0.90
Diesel fuel	4.50	4.50
Stove dist.	5.50	5.50

Note: All above heavy fuels meet Pacific specification 400; light fuel, spec. 300; Diesel fuels, spec. 200; and stove distillate, spec. 100.

Lubricating Oils

WESTERN PENNA.

Prices were given by Penna. refiners as their quotations to jobbers & compounders only. Neutral prices were reported by refiners as for limited sale to their regular customers only.

Viscous Neutrals—No. 3 col. Vis. at 70° F

200 Vis. (180 at 100°) 420-425 fl.		
0 p.t.	32.50 (1)	31.50 (1)
10 p.t.	31.50 (1)	30.50 (1)
15 p.t.	30.50 (1)	29.50 (1)
25 p.t.	29.00 –31.00	28.00 –30.00
150 Vis. (143 at 100) 400-405 fl.		
0 p.t.	30.50 (1)	29.50 (1)
10 p.t.	29.50 (1)	28.50 (1)
15 p.t.	28.50 (1)	27.50 (1)
25 p.t.	27.00 –28.00	26.00 –28.00
Cylinder Stocks		
Brt. stk., 145-155 vis. at 210°, 540-550 fl., No. 8 col.		
10 p.t.	22.50 (1)	21.50 (1)
15 p.t.	21.50 (1)	20.50 (1)
25 p.t.	20.00	19.00 –20.00
600 S.R. filterable	10.50 –12.50	10.50 –12.00
650 S.R.	11.00 –13.00	10.00 –13.00
600fl	11.00 –14.00	10.00 –14.00
630fl	12.00 –15.00	11.00 –15.00

MID-CONTINENT (F.o.b. Tulsa)

Neutral Oils (Vis. at 100° F. 0 to 10 P.P.)

Pale Oils: Vis. Color		
60-85—No. 2	6.00 – 6.75	5.75 – 6.25
86-110—No. 2	6.00 – 7.25	6.00 – 6.25
150—No. 3	9.50 –11.25	9.50 –10.25
180—No. 3	10.00 –11.50	9.50 –10.50
200—No. 3	10.00 –12.00	10.00 –11.00
250—No. 3	11.50 –13.00	11.00 –12.00
280—No. 3	12.00 –14.75	12.00 –13.75
300—No. 3	13.00 –15.25	13.00 –14.25

Lubricating Oils (Cont'd)

Prices Effective	May 26	May 19
Red Oils:		
180—No. 5	10.00 (1)	10.00 (1)
200—No. 5	10.00–11.00 (2)	10.00–11.00 (2)
280—No. 5	13.00 (1)	13.00 (1)
300—No. 5	12.50 –13.50	12.00 –13.50

Note: Viscous Neutrals, 15-25 p.p. generally are quoted 0.5c under 0-10 p.p. oils. Non-viscous oils, 15-25 p.p., generally are quoted 0.25c under 0-10 p.p. oils.

Bright Stock—Vis. at 210°		
200 Vis. D	21.00 (1)	21.00 (1)
150-160 Vis. D:		
0 to 10 p.p.	16.50 –18.00	15.50 –17.00
10 to 25 p.p.	16.00 –17.50	15.00 –16.50
25 to 40 p.p.	16.00 (1)	15.50 (1)
150–160 vis. E	15.50 –16.00	14.50 –15.50
120 Vis. D:		
0 to 10 p.p.	16.00 –16.50	15.00 –16.00
600 S.R. Dark Green	7.50 (2)	7.00–7.50 (2)
600 S.R. Olive Green	8.50 –10.00	8.00 – 9.50
631 S.R.	13.50 (1)	13.00 (1)
Black Oil	4.00–5.50 (2)	4.00–5.50 (2)

SOUTH TEXAS Neutral Oils

Vis. Color		
Pale Oils: (*Vis. at 100°F*)		
100 No. 1½-2½	5.50 – 6.00	5.50 – 6.00
200 No. 2-3	7.75	7.75
300 No. 2-3	8.25	8.25
500 No. 2½-3½	9.00	9.00
750 No. 3-4	9.25	9.25
1200 No. 3-4	9.375	9.375
2000 No. 4	9.50	9.50
Red Oils:		
100 No. 5-6	5.75–6.00 (2)	5.75–6.00 (2)
200 No. 5-6	7.75	7.75
300 No. 5-6	8.25	8.25
500 No. 5-6	9.00	9.00
750 No. 5-6	9.25	9.25
1200 No. 5-6	9.375	9.375
2000 No. 5-6	9.50	9.50

CHICAGO (From Mid-Continent p.l. crude.)

Neutral Oils (Vis. at 100° F. 0 to 10 p.p.)

Pale Oils Vis. Color		
60-85—No. 2	7.75 (1)	7.50 (1)
86-110—No. 2	7.75 (1)	7.50 (1)
150—No. 3	10.50 (1)	9.50 (1)
180—No. 3	11.00 (1)	10.50 (1)
200—No. 3	11.00 (1)	10.50 (1)
250—No. 3	12.50 (1)	12.00 (1)
Red Oils:		
180—No. 5	11.00 (1)	10.50 (1)
200—No. 5	11.00 (1)	10.50 (1)
250—No. 5	12.00 (1)	11.50 (1)
280—No. 5	13.00 (1)	12.50 (1)
300—No. 5	13.50 (1)	13.00 (1)

Note: Viscous oils, 15 to 30 p.p. are quoted 0.5c lower; 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 p.p., 0.25c lower.

Unfiltered Steam Refined: (Viscosity at 210°)		
140	9.50 (1)	9.25 (1)
160	10.50 (1)	10.00 (1)
200	11.50 (1)	11.00 (1)
Bright stocks, 160 vis. at 210 No. 8 color:		
0 to 10 p.p.	18.00 (1)	17.00 (1)
15 to 25 p.p.	17.50 (1)	16.50 (1)
30 to 40 p.p.	16.25 (1)	15.30 (1)
E filtered Cyl. Stock	13.50 (1)	13.00 (1)

Note: To obtain prices delivered in Chicago, add 0.25c per gal.

Natural Gasoline

(Group 3 & Breckenridge prices are to blenders on freight basis shown below. Shipments may originate in any Mid-Continent manufacturing district.)

FOB GROUP 3		
Grade 26-70	3.375 (Sales)	3.25 (Sales)
FOB BRECKENRIDGE		
Grade 26-70	3.00-3.125(Qtns.)	3.00 (Qtns.)
CALIFORNIA (FOB plants in Los Angeles basin)		
75-85, 350-375 e.p. for blending	4.375– 4.625	4.375– 4.625

Naphtha and Solvent

Prices Effective (FOB Group 3)	May 26	May 19
Stoddard solvent	6.625	5.875– 6.25
Cleaners' naphtha	7.125	6.375– 6.75
V. M. & P. naphtha	7.125	6.375– 6.75
Mineral spirits	6.125	5.375– 5.75
Rubber solvent	7.125	6.375– 6.75
Lacquer diluent	7.375– 8.125	6.625– 7.75
Benzol Diluent	7.875– 8.625	7.875– 8.75
WESTERN PENNA		
Untreated naphtha	6.00 – 6.25	6.00 – 6.25
Stoddard solvent	6.25 – 7.00	6.25 – 7.00
OHIO (S. O. Ohio quotations for statewide delivery):		
V.M.&P. naphtha, D.C. naphtha, Varnolene & Sohio solvent	9.50	9.50
Rubber solvent	8.50	8.50

Wax

White Crude Scale:

WESTERN PENNA. (Bbls. C.L., N. Y.)		
122-124 A.m.p.	4.25 (2)	4.00 – 4.25
124-126 A.m.p.	4.25 – 4.50	4.00 – 4.50
OKLAHOMA (Bbls. or burlap bags, C.L.)		
124-6 AMP	4.25 (1)	4.00 (1)
131-3 AMP	4.375 (1)	4.125 (1)

CHICAGO (FOB Chicago district refinery of one refiner, in bags or slabs loose, carloads. Melting points are EMP (ASTM) methods; add 3° F. to convert into AMP.)

Fully refined:		
122-124 (bags only)	5.60	5.60
125-127	5.60	5.60
127-129	5.85	5.85
130-132	6.15	6.15
132-134	6.40	6.40
135-137	7.15	7.15

Petrolatums

WESTERN PENNA. (Bbls., carloads; tank cars, 0.5c per lb. less.)		
Snow White	5.625– 6.625	5.625– 6.375
Lily White	4.875– 5.625	4.875– 5.375
Cream White	4.00 – 4.625	4.00 – 4.375
Light Amber	3.125– 3.625	3.125– 3.50
Amber	2.875– 3.25	2.875– 3.125
Red	2.625– 3.00	2.625– 3.00

Group 3 Freight Rates

To Division Headquarters Points of Standard Oil Co. of Indiana

	Gasoline Kerosine Cents per Cwt.	Gasoline Kerosine Cents per gal. 6.6 lbs.	Distillate-Gas Oil-Fuel Oil Cents per Cwt.	Distillate-Gas Oil-Fuel Oil Cents per gal. 7.4 lbs.
Chicago, Ill.	40	2.640	32	2.368
Decatur, Ill.	39	2.574	31	2.294
Joliet, Ill.	40	2.640	32	2.368
Peoria, Ill.	39	2.574	31	2.294
Quincy, Ill.	36	2.376	29	2.146
Indianapolis, Ind.	48	3.168	39	2.886
Evansville, Ind.	46	3.036	37	2.738
South Bend, Ind.	49	3.234	**42	**3.108
Detroit, Mich.	64	4.224	51	3.774
Grand Rapids, Mich.	58.5	3.861	**50	**3.700
Saginaw, Mich.	66	4.356	53	3.922
Green Bay, Wis.	51	3.366	41	3.034
Milwaukee, Wis.	43	2.838	34.5	2.553
LaCrosse, Wis.	46	3.036	37	2.738
Minneapolis-St. Paul	46	3.036	37	2.738
Duluth, Minn.	52	3.432	41.5	3.071
Mankato, Minn.	46	3.036	37	2.738
Des Moines, Ia.	36	2.376	29	2.146
Davenport, Ia.	39	2.574	31	2.294
Mason City, Ia.	42	2.772	33.5	2.479
St. Louis, Mo.	33	2.178	26.5	1.961
Kansas City, Mo.	28	1.848	22.5	1.665
St. Joseph, Mo.	28	1.848	22.5	1.665
Fargo, N. D.	63	4.158	50.5	3.737
Minot, N. D.	83	5.478	66.5	4.921
Huron, S. D.	53	3.498	42.5	3.145
Wichita				
From Ponca City	7.5	*0.495	7.5	†0.555
From Tulsa	12.5	*0.825	12.5	†0.925
From Cushing	11	*0.726	11	†0.814

*This rate also includes distillate rate at 6.6 lbs. per gal.

**This rate applies only to residual fuel and gas oil.

†This rate is exclusive of distillate which is based on 6.6 lbs. per gal. from Ponca City, Tulsa and Cushing, Okla., to Wichita. Includes only gas oil and fuel oil.

NOTE: There is no Group 3 rate to Wichita, Kans.

SEABOARD PRICES EXPORT AND COASTWISE

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

Atlantic Coast

(Prices are of refiners, FOB their refineries & their tanker terminals, & of tanker terminal operators, FOB their terminals)—Prices Effective May 26

MOTOR GASOLINE

District:	Min. 80 Oct. '39 Research (Max. 2 cc. Lead)	72-74 Oct. (ASTM)	68-70 Oct. (ASTM)
N. Y. Harb.	8.00 – 8.50	7.50 – 8.00	7.50 (2)
N. Y. Harb., barges	8.00 – 8.50	7.25 – 8.00	7.25 (2)
Albany	8.10	....	....
Philadelphia	7.50 – 8.50	7.50 – 8.00	7.50 – 8.00
Baltimore	7.50 – 8.00	7.50–8.00 (2)	8.00 (1)
Norfolk	7.00 – 8.00	6.75 – 8.00	7.00 – 8.00
Wilmington, N. C.	6.63 – 8.25	6.75 (1)	6.875–7.00 (2)
Charleston	7.00 – 7.50	....	6.875–7.00 (1)
Savannah	7.00 – 7.50	6.75 (1)	6.875–7.00 (2)
Jacksonville	6.50 – 7.50	6.25 (1)	6.75–7.00 (2)
Miami	7.00–7.25 (2)	....	6.625–6.75 (1)
Tampa	6.50 – 7.25	6.25 (1)	6.625–6.75 (1)
Pensacola	6.75–7.00 (1)	....	6.375–6.50 (1)
Mobile	6.625–7.00 (2)	....	6.375–6.50 (1)
Portland	8.30 – 9.40	8.60 (1)	....
Boston	8.20 – 9.00	8.00–8.50 (2)	8.00 (1)
Providence	8.20 – 9.10	8.50 (1)	....

FUEL OILS

	KEROSINE and/or NO. 1 FUEL	No. 2	No. 3	No. 5	No. 6
N. Y. Harb.	5.20	4.90	4.90	$1.55 –$1.65	$1.25 –$1.35
N. Y. Harb., barges	5.10	4.80	4.80	....	....
Albany	5.40	5.00	5.00 (2)	$1.95 (1)	$1.55(1)
Philadelphia	5.25 – 5.50	5.00	5.00	$1.47 –$1.57	$1.25 –$1.35
Baltimore	5.25	5.00	5.00	$1.57 (1)	$1.35
Norfolk	5.25 – 5.50	5.00	5.00 (2)	....	$1.35 (2)
Wilmington, N. C.	5.00 – 5.50	5.00	....	....	....
Charleston	5.25 – 5.50	5.00 (2)	....	....	$1.30 (2)
Savannah	5.25 – 5.50	....	....	....	$1.30 (1)
Jacksonville	5.00 – 5.50	5.00 (1)	5.00 (1)	....	$1.30 (1)
Miami	5.25–5.50 (2)	....	....	....	....
Tampa	4.75 – 5.50	5.00 (1)	....	....	$1.25 (1)
Pensacola	4.75–5.00 (1)	....	....	....	....
Mobile	4.75 – 5.00	....	....	....	....
Portland	5.40	5.00	5.00 (2)	$1.95	$1.35 –$1.55
Boston	5.30	4.90	4.90 (2)	$1.55–$1.65(2)	$1.25 –$1.35
Providence	5.30	4.90	4.90	$1.55 –$1.65	$1.25 –$1.35

	Bunker C Fuel Ships' bunkers (Ex Lighterage)	Diesel Oil Ships' bunkers (Ex Lighterage)	Diesel Oil Shore Plants	Gas House Gas Oil 28-34 Gravity
N. Y. Harbor	$1.25 –$1.35	$2.00	4.90–5.00 (2)	5.00 (2)
Albany	$1.55 (1)	$2.20 (1)	5.00 (1)	5.20 (1)
Philadelphia	$1.25 –$1.35	$2.00 –$2.10	....	....
Baltimore	$1.35	$2.00	4.25 (1)	4.25 (1)
Norfolk	$1.35	$2.00	4.25 (1)	4.25 (1)
Charleston	$1.30	$2.00 –$2.10	4.25 (1)	4.25 (1)
Savannah	$1.30 (1)	$1.99 (1)	....	....
Jacksonville	$1.30 (2)	$1.99 –$2.10	....	....
Tampa	$1.25 (2)	$1.99 –$2.10	....	....
Portland	$1.35 –$1.55	$2.10	5.00 (1)	5.10 (1)
Boston	$1.25 –$1.35	$2.00	4.90 (2)	5.00 (2)
Providence	$1.25 –$1.35	$2.00	4.90 (1)	5.00 (1)

New York Export Lubes

(Penna. Products in bbls. FAS New York)

Prices Effective	May 26	May 19
Bright stock:		
Light, 25 p.t.	29.50 (1)	28.50 (1)
Neutral oil:		
150 3 color, 25 p.t.	....	33.00 (1)
600 s.r., unfilt.	20.00 (1)	20.00 (1)
650 s.r., unfilt.	20.50 (1)	20.25 (1)
600 fl. s.r.	21.00 (1)	20.50 (1)
630 fl., s.r.	22.00 (1)	21.00 (1)

Wax

(Melting points are AMP, 3° higher than EMP. Export prices FAS c.l. Domestic prices FOB, in bags, c.l. Scale solid; fully refined slabs.)

Prices Effective May 26

	New Orleans Export	N. Y. Domestic	N. Y. Export
Crude Scale:			
124-6 Yellow	4.25 (1)	....	4.25 (1)
122-4 White	....	4.25–4.50	4.25 (2)
124-6 White	4.25 (2)	4.25–4.50	4.25–4.50
Fully Refined:			
123-5	....	5.60 (a)	5.60(2)
125-7	5.60(1)	5.60(a)	5.60
128-30	5.60(1)	5.60–5.70	5.60
130-2	5.85(1)	5.85	5.85
133-5	6.15(1)	6.15	6.15
135-7	6.40(1)	6.40(2)	6.40
108-11 White Match wax (tight bbls.)			4.75 (1)

Naphtha

Prices Effective May 26	V.M.&P. Naphtha	Mineral Spirits
Baltimore	9.50 (2)	8.00 – 8.50
New York Harbor	9.80	8.80 – 9.00
Philadelphia district	10.00 – 10.50	9.00 – 9.50
Boston	10.00 (2)	9.25 – 9.50
Providence	9.00 (1)	8.75–9.50 (2)

Pacific Export

(Quotations at seaboard, Los Angeles, cargo lots, except where otherwise noted.)

Prices Effective	May 26	May 19
375 e.p. blend, 70 oct.	6.00 – 6.25	5.875– 6.125
390 e.p. blend, 68 oct.	5.875– 6.125	5.75 – 6.00
390 e.p. blend, 66 oct.	5.50 – 5.875	5.625– 5.75
400 e.p. blend, 65 oct. min.	5.50 – 5.875	5.375– 5.50
U. S. Motor, under 65 octane	5.25 – 5.50	5.125– 5.375
38-40 grav. w.w. kero., 150 fire point	4.50 – 5.00	4.50 – 5.00
41-43 grav., w.w. kero.	4.75 – 5.00	4.75 – 5.00
44 grav., w.w. kero	5.00 – 5.50	5.00 – 5.50
Diesel fuel, 24 & above	$1.30	$1.35	$1.25 –$1.30
Diesel fuel, under 24	$1.20 –$1.30	$1.15 –$1.25
30-34 grav. diesel (gas oil) Pac. Spec. 200	$1.30	$1.35	$1.25 –$1.35
Grade C fuel, Pac. Spec. 400	$0.85	$0.90	$0.75 –$0.85
In Ship's Bunkers, or deep tank lots:			
Diesel fuel, Pac. Spec. 200	$1.40	$1.50	$1.35 –$1.45
Grade C fuel, Pac. Spec. 400	$0.85	$0.90	$0.75 –$0.85

Pacific Export (Cont'd)

Prices Effective	May 26	May 19
Cased Goods: (Per case)		
U. S. Motor	$1.35 –$1.45	$1.35 –$1.45
375-400 e.p. blend, 65 oct. & above	$1.50 –$1.60	$1.50 –$1.60
400 e.p. blend, under 65 oct.	$1.40 –$1.50	$1.40 –$1.50
40-43 grav. w.w. kero., 150 fire point	$1.30 –$1.40	$1.30 –$1.40
Kero., p.w.	$1.25 –$1.35	$1.25 –$1.35

Tanker Rates

(Approximate rates. Cents per bbl.)

Gulf-N. Atlantic: (not E. of N.Y.)	Last Paid	Owners Ask
Hvy. Crude & Fuel (10 to 19.9 gravity)	57	....
Light Crude, (30 grav. or Lighter)	50	....
Gasoline	50	....
Kerosine	53	....
No. 2 Fuel	57	....

Gulf Coast

(Prices for sales made or firm offers reliably reported for sales pending in cargoes FOB ship at Gulf, for minimum of 20,000 bbls. Prices are by refiners only to other refiners, export agents, or to large tanker terminal operators at the customary trade specifications noted.)

Prices Effective May 26

Motor Gasoline Domestic	
Min. 80 oct. '39 Research, max. 2cc lead	5.625– 6.25
60-62, Gravity, Max. 400 e.p.	
72-74 oct. leaded (ASTM)	5.625– 6.00
70 oct. unleaded "	5.75 – 6.00
68 oct. " "	5.625– 6.00
65 oct. " "	5.25 – 5.50
60 oct. " "	5.00 – 5.25
41-43 w.w. kerosine	3.375– 3.75
No. 2 fuel	3.25 – 3.50
Gas Oil—Less than ½ of 1% sulfur.	
Below 43 diesel index	3.125– 3.375
43-47 " "	3.125– 3.375
48-52 " "	3.125– 3.50
53-57 " "	3.25 – 3.625
58 & above diesel index	3.625– 3.75
Diesel Oil, ships' bunkers (ex-Lighterage)	$1.45 –$1.50
Bunker C, " " "	$0.85 –$0.90
Bunker C, cargoes	$0.85 –$0.90

Motor Gasoline Export	
60-62 Gravity, Max. 400 e.p.	
72-74 oct. leaded (ASTM)	5.625– 6.00
70 oct. unleaded "	5.75 – 6.00
68 oct. " "	5.625– 6.00
65 oct. " "	5.25 – 5.50
60 oct. " "	5.00 – 5.25
61-63 Gravity, Max. 390 e.p.	
72-74 oct. leaded (ASTM)	....
60 oct. unleaded "	....
64-66 Gravity, Max. 375 e.p.	
72-74 oct. leaded (ASTM)	....
60 oct. unleaded "	....
41-43 w.w. kerosine	3.375– 3.75
Gas Oil—Less than ½ of 1% sulfur.	
Below 43 diesel index	3.125– 3.375
43-47 " "	3.125– 3.375
48-52 " "	3.125– 3.50
53-57 " "	3.25 – 3.625
58 & above diesel index	3.625– 3.75

MID-CONTINENT LUBES

(At Gulf; in packages, FAS.; in bulk FOB terminals)

	May 26 New Steel Drums	Bulk
200 vis. D. 210 brt. stock	27.50–29.00 (2)	22.30–22.80 (2)
150 vis. D 210 brt. stock 0-10 p.p.	23.50–25.00 (2)	18.30 (2)
10-25 p.p.	23.00 (1)	17.80 (1)
100 vis. D 210 brt. stock 0-10 p.p.	23.00 (1)	17.80 (1)
10-25 p.p.	22.50 (1)	17.30 (1)
200 vis. No. 3 col. neutral: 0-10 p.p.	17.80 (1)	11.80 (1)

SOUTH TEXAS LUBES

(Vis. at 100°, c. t. 0, blk expct. shp., FOB terminals)

Vis. Color	May 26	May 19
Unfiltered Pale Oils:		
100 No. 3	5.50–6.25 (2)	5.50–6.25 (2)
200 No. 3	7.75 (2)	7.75 (2)
300 No. 3	8.25 (2)	8.25 (2)
500 No. 3½	9.00–9.25 (2)	9.00–9.25 (2)
750 No. 4	9.50–9.75 (2)	9.50–9.75 (2)
1200 No. 4	9.75–10.25 (2)	9.75–10.25 (2)
2000 No. 4	....	....
Red Oils:		
100 No. 5-6	5.50 (1)	5.50 (1)
200 No. 5-6	7.75 (2)	7.75 (2)
300 No. 5-6	8.25 (2)	8.25 (2)
500 No. 5-6	9.00–9.25 (2)	9.00–9.25 (2)
750 No. 5-6	9.50–9.75 (2)	9.50–9.75 (2)
1200 No. 5-6	9.75–10.25 (2)	9.75–10.25 (2)
2000 No. 5-6	11.00 (1)	11.00 (1)

(a) 0.4c discount generally given for slabs loose.

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes. These prices in effect May 26, 1941 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. New Jersey

Esso (*Regular Grade*)

	Consumer Tank Car	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
*Atlantic City, N. J.	8.5	9.5	4.5	7.8
*Newark, N. J.	8.5	9.5	4.5	7.8
Annapolis, Md.	8.35	9.85	5.5	9.5
Baltimore, Md.	7.75	9.25	5.5	8.5
Cumberland, Md.	9.15	10.65	5.5	10
Washington, D. C.	8	9.5	3.5	9
Danville, Va.	8.95	10.95	6.5	10.25
Norfolk, Va.	7.75	9.75	6.5	10
Petersburg, Va.	8.05	10.05	6.5	11
Richmond, Va.	8.05	10.05	6.5	11
Roanoke, Va.	9.25	11.25	6.5	10.5
Charleston, W. Va.	9.05	11.55	6.5	11.5
Parkersburg, W. Va.	8.35	10.85	6.5	11.2
Wheeling, W. Va.	9.35	10.85	6.5	11.8
Charlotte, N. C.	9.30	10.8	7.5	9.3
Hickory	9.85	11.35	7.5	10.3
Mt. Airy, N. C.	9.7	11.2	7.5	11
Raleigh, N. C.	9.05	10.55	7.5	10.3
Salisbury, N. C.	9.35	10.85	7.5	10.7
Charleston, S. C.	7.15	9.65	7.5	...
Columbia, S. C.	8	10.5	7.5	...
Spartanburg, S. C.	8.7	11.2	7.5	...

	Mineral Spirits T.W.	V.M.&P. T.W.
Newark, N. J.	12	13.5
Baltimore, Md.	15	....
Washington, D. C.	15	....

Fuel Oils—T.W.	No. 1	No. 2	No. 3
Atlantic City, N. J.	7.8	6.9	6.9
Newark	7.8	6.9	6.9
Annapolis, Md.		7.25	....
Baltimore	7.5	7	7
Washington, D. C.	8	7.25	7.25
Norfolk, Va.	7.75	6.75	6.75
Petersburg	8	7	....
Richmond	8	7	7
Charlotte, N. C.	8.3	8.4	....
Hickory		8	....
Raleigh	9.3	8.1	....
Charleston, S. C.		7	....
Columbia		8	....
Spartanburg		8.8	....

*Effective May 20, '41, minimum retail resale price of 13c posted thru New Jersey.

Discounts:

Esso gasoline—to undivided dealers, 0.5c off dealer t.w.

Kerosene—1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore city contract not necessary) except no discount in state of New Jersey.

Naphthas—To buyers taking following quantities at one time: Newark, 2c per gal. on 200 gals. or more, less than 200 gals. 0.5c higher price: Baltimore, 2c off on 25 to 100 gals. and 3c on over 100 gals.; Washington, 2c off to contract buyers.

Socony-Vacuum Oil Co., Inc.

Socony Mobilgas (*Regular Grade*)

	Com. T.C.	Com. Cons. T.W.	Undiv. Dlr. T.W.	Gasoline Taxes
New York City:				
Manhattan & Bronx	8.6	8.3	9	*5.5
Kings & Queens	8.6	8.3	9	*5.5
Richmond	8.8	8.5	9	5.5
Albany, N. Y.	9	8.7	9.2	5.5
Binghamton, N. Y.	10.1	9.8	10.3	5.5
Buffalo, N. Y.	9.3	9	9.5	5.5
Jamestown, N. Y.	9.5	9.2	9.7	5.5
Mt. Vernon, N. Y.	8.8	8.5	9	5.5
Plattsburg, N. Y.	10.1	9.8	10.3	5.5
Rochester, N. Y.	9.9	9.6	10.1	5.5
Syracuse, N. Y.	9.6	9.3	9.8	5.5
Bridgeport, Conn.	9.1	8.8	9.3	4.5
Danbury, Conn.	9.6	9.3	9.8	4.5
Hartford, Conn.	9.7	9.4	9.9	4.5
New Haven, Conn.	9.1	8.8	9.3	4.5
Bangor, Me.	9.8	9.5	10	5.5
Portland, Me.	9.4	9.1	9.6	5.5
Boston, Mass.	9	8.7	9.2	4.5
Concord, N. H.	10.5	10.2	10.7	5.5
Lancaster, N. H.	11.1	10.8	11.3	5.5
Manchester, N. H.	10.4	10.1	10.6	5.5
Providence, R. I.	9.1	8.8	9.3	4.5
Burlington, Vt.	10	9.7	10.2	5.5
Rutland, Vt.	10.1	9.8	10.3	5.5

	Mineral Spirits T.W.	V.M.&P. T.W.
Buffalo, N. Y.	9.8	10.5
†New York City	9.5	10.5
Rochester, N. Y.	10.7	11.4
Syracuse, N. Y.	11.5	....
Boston, Mass.	11	11.5
Hartford, Conn.	12	13
Providence, R. I.	12	12.5

	Kerosine Yard	Kerosine TW	Mobilfuel Diesel TC	Mobilfuel Diesel TW	Mobilheat Fuel Yard	Mobilheat Fuel TW
New York:						
Manhat'n & Bronx	...	7.9	...	7.1	...	6.7
Kings & Queens	5.4	7.9	...	7.1	5.1	6.7
Richmond	5.4	7.9	...	7.1	5.1	6.7
Albany	5.6	7.6	5.2	7.2	5.2	6.9
Binghamton	7	9	...	...	6.6	8.1
Buffalo	6.3	8.3	6.2	8.2	6	7.7
Jamestown	6.2	8.2	...	...	6.1	7.5
Mt. Vernon	5.6	8.1	...	7.3	5.3	6.9
Plattsburg	6.2	8.2	...	...	5.8	7.3
Rochester	6.8	8.8	...	...	6.1	7.6
Syracuse	6.7	8.7	...	...	6.3	7.8
Conn.:						
Bridgeport	5.7	7.5	...	...	5.4	6.7
Danbury	6.2	8.2	...	...	5.7	7
Hartford	5.6	7.5	...	7.3	5.3	6.9
New Haven	5.2	6.8	...	...	5.5	7.5
Maine:						
Bangor	6	8	...	...	5.4	7
Portland	5.6	8	5.2	7.2	5.2	6.9
Mass.:						
Boston	5.7	7.9	5.3	7.3	5.3	6.9
N. H.:						
Concord	6.5	8.5	...	...	6.4	7.9
Lancaster	7.6	9.6	...	...	7.4	8.9
Manchester	6.6	8.9	...	...	6.1	7.6
R. I.:						
Providence	5.7	7.7	5.3	7.3	5.3	6.8
Vermont:						
Burlington	6.2	8.2	...	...	5.7	7.1
Rutland	6.4	8.4	...	...	5.9	7.4

*Plus 2% city sales tax computed at time of each sale.

†Prices apply to consumers only in quantities over 1000 gals. annually; for quantities under 1000 gals. annually, add 0.5c per gal.

Discounts: Diesel—On t.w. deliveries, 0.5c for at least 400 gals.; 1c for full tank truck.

Atlantic Refining

Atlantic White Flash Gasoline (*Regular Grade*)

	Commercial T.C.	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Philadelphia, Pa.	8.5	9.5	5.5	10
Pittsburgh	8.5	10	5.5	10.5
Allentown	8.5	10	5.5	10.5
Erie	8	10	5.5	10
Scranton	8.5	10	5.5	10.5
Altoona	8.5	10	5.5	10.5
Emporium	8.5	10	5.5	10.5
Indiana	8.5	10	5.5	10.5
Uniontown	8.5	10	5.5	10.5
Harrisburg	8.5	10	5.5	10.5
Williamsport	8.5	10	5.5	10.5
Dover, Del.	...	10	5.5	10.5
Wilmington, Del.	...	9.5	5.5	10
Boston, Mass.	...	9.7	4.5	7.9
Springfield, Mass.	...	10.5	4.5	8.8
Worcester, Mass.	...	10.3	4.5	7.9
Fall River, Mass.	...	9.8	4.5	8.5
Hartford, Conn.	...	10.4	4.5	7.8
New Haven, Conn.	...	9.8	4.5	8.9
Providence, R. I.	...	9.8	4.5	8.5
Atlantic City, N. J.	...	9.5	4.5	7.8
Camden, N. J.	...	9.5	4.5	7.8
Trenton, N. J.	...	9.5	4.5	7.6
Annapolis, Md.	...	9.85	5.5	8.5
Baltimore, Md.	...	9.25	5.5	7.5
Hagerstown, Md.	...	10.35	5.5	8
Richmond, Va.	...	10.05	6.5	10
Wilmington, N. C.	...	9.75	7.5	9.6
Brunswick, Ga.	...	9	7.5	*9
Jacksonville, Fla.	...	9	8.5	10

	Mineral Spirits T.W.†	V.M.&P. T.W.†
Philadelphia, Pa.	12	14.5
Lancaster, Pa.	13.5	16
Pittsburgh, Pa.	14.5	14.5

Fuel Oils—T.W.	1	2	3	5	6
Phila., Pa.	8	7	7	4.50	3.75
Allentown, Pa.	8.5	7.2	7.2	....	....
Wilmington, Del.	8.00	7	7	....	....
Springfield, Mass.	8.8	7.3	7.3	....	....
Worcester, Mass.	7.9	7.2	7.2	....	....
Hartford, Conn.	7.8	6.9	6.9	....	....

*Does not include 1c Georgia kerosine tax.

†Mineral Spirits prices also apply to Stoddard Solvent; V.M.&P. prices also apply to Light Cleaners Naphtha.

Discounts:

Gasoline—to undivided dealers, 0.5c off dealer t.w.; except Georgia & Florida dealer t.w. and undivided dealer t.w. prices are same.

Kerosine—Thru Penna. & Delaware, 2c off t.w. price on t.w. deliveries of 25 gals or more at one time.

Naphthas—Philadelphia, 200 gals. or more at one time, 2c off, Lancaster, contract buyers taking 1000 gals. or more per year, one drum up, 2c off; non-contract buyers, 200 gals. or more at one time, 2c off. Pittsburgh, 500 gals. or more at one time, 2c off.

S. O. Ohio††

***Sohio X-70 Gasoline (*Regular Grade*)**

	Consumer T.W.	**Reselers	‡S.S.	Gasoline Taxes	†Kerosine T.W.
Ohio, Statewide	11.5	9.5	13	5.5	8.5
Akron	11.5	8.5	11	5.5	8.5
Cincinnati	11.5	8.5	11	5.5	8.5
Cleveland	11.5	9	12	5.5	8.5
Columbus	11.5	9	12	5.5	8.5
Dayton	11.5	7.8	10.5	5.5	8.5
Marietta	11.5	9	12	5.5	8.5
Portsmouth	11.5	9	12	5.5	8.5
Toledo	11.5	8.5	11	5.5	8.5
Youngstown	11.5	9	12	5.5	8

Aviation Gasoline—Statewide

	Consumer T.W.	Gasoline Taxes
Sohio Aviation	14.5	5.5
Esso Ethyl Aviation 74 Oct.	15.5	5.5
Esso Ethyl Aviation 80 Oct.	16.5	5.5
Esso Ethyl Aviation 87 Oct.	17.5	5.5
Esso Ethyl Aviation 90 Oct.	17.5	5.5
Esso Ethyl Aviation 100 Oct.	24.5	5.5

	†Naphthas—T.W. Statewide	Lucas County
S. R. Solvent	12.75	12.75
D.C. Naphtha	13.25	13
V.M.&P. Naphtha	13.25	13
Varnolene	13.25	13
Sohio Solvent	13.25	13

Fuel Oils—T.W.	No. 1	No. 2	No. 3	No. 4
Ohio, Statewide	7.5	7.5	7	....
Cleveland	9.5	9.5	9.0	6.75

*Renown (third-grade) prices are same as X-70 unless otherwise noted.

**Except authorized agents.

†Kerosine prices are ex 1c state tax. Naphtha prices are ex 1.5c federal & 4c state tax.

‡Prices at company-operated stations.

††Statewide prices are subject to exceptions other than those shown.

Discounts:

Esso aviation—on contract to hangar operators and resellers, 2c off consumer t.w.

Fuel Oils—Statewide prices are for t.w. & drum deliveries of 50 gals. or more; prices for deliveries of less than 50 gals. are 0.5c higher. Cleveland Nos. 1, 2, and 3 prices are for bulk deliveries of 5 to 99 gals.; 100 gals. and over are 2c less. Cleveland No. 4 price is for full compartment hose dump only.

Naphthas—to contract consumers off t.w. prices—Statewide: 300 to 999 gals., 0.5c; 1000 to 2499 gals., 0.75c; 2500 to 4999 gals., 1c; 5000 or more gals., 1.5c. Lucas County: Less than 50 gals., tank wagon price; 50 to 249 gals., 0.5c; 250 to 499 gals., 1c; 500 gals. or over, 1.5c.

S. O. Kentucky

Crown Gasoline (*Regular*)
Standard (*Third Grade*)

	†Net Dealer Crown	Standard	Gasoline Taxes	Kerosine T.W.
Covington, Ky.	8	7	6.5	9
Lexington, Ky.	10	9	6.5	9
Louisville, Ky.	9.5	8.5	6.5	8.5
Paducah, Ky.	9.5	8.5	6.5	6.5
Jackson, Miss.	9	8	7.5	*8.5
Vicksburg, Miss.	9	8	7.5	*8
Birmingham, Ala.	9.5	8.5	*8.5	8
Mobile, Ala.	8.5	7	*9.5	8
Montgomery, Ala.	9.5	8.5	*9.5	*9
Atlanta, Ga.	10	9	7.5	*9
Augusta, Ga.	10	9	7.5	*8.5
Macon, Ga.	10	9	7.5	*8
Savannah, Ga.	9	8	7.5	*8
Jacksonville, Fla.	9	8	8.5	8
Miami, Fla.	9	8	8.5	8
Pensacola, Fla.	8.5	7.5	*9.5	8
Tampa, Fla.	9	8	8.5	8

*Taxes: In tax column are included these city and county gasoline taxes: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Montgomery, Ala. have 1c kerosine tax, Mississippi 0.5c, not included in above prices.

†Consumer t.w. prices are same as net dealer prices.

S. O. Indiana

Red Crown (*Regular Grade*)
Standard (*Third Grade*)

	Red Crown Cons. T.W.	Dealer Prices Red Crown	Stanolind	Gasoline Taxes	Kerosine T.W.
Chicago, Ill.	10.6	8.6	6.9	4.5	10.5
Decatur, Ill.	9.9	8.4	8.4	4.5	9
Joliet, Ill.	12.1	10.6	9.1	4.5	10.5
Peoria, Ill.	12.1	9.7	9.1	4.5	10.5
Quincy, Ill.	11.9	10.4	8.9	4.5	10.3
Indianapolis, Ind.	12.3	10.3	9.9	5.5	*10.5
Evansville, Ind.	12.1	9.9	9.1	5.5	*10.3

(Continued on next page)

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes. These prices in effect May 26, 1941 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. Indiana (Cont'd)

Red Crown (*Regular Grade*)
Stanolind (*Third Grade*)

	Red Crown Cons. T.W.	Dealer Prices Red Crown	Stano-lind	Gaso-line Taxes	Kero-sine T.W.
South Bend, Ind	12.3	10.8	9.8	5.5	*10.5
Detroit, Mich	11.1	9.6	8.6	4.5	9.6
Grand Rapids, Mich	11.4	9.9	9.4	4.5	9.6
Saginaw, Mich	11.4	9.9	9.4	4.5	9.6
Green Bay, Wis	12.9	11.4	10.9	5.5	11.3
Milwaukee, Wis	12.3	10.8	10.3	5.5	10.7
La Crosse, Wis	12.5	11	10.5	5.5	10.9
Minneapolis-St. Paul	12.5	10.2	9.5	5.5	10.9
Duluth, Minn	12.9	11.4	10.9	5.5	11.3
Mankato, Minn	12.5	11	9.5	5.5	10.4
Des Moines, Ia	11.9	9.4	8.4	4.5	*10.3
Davenport, Ia	12.1	10.6	10.1	4.5	*10.5
Mason City, Ia	12.3	10.8	8.3	4.5	*10.7
St. Louis, Mo	9.2	7.7	7.7	*4.5	10.1
Kansas City, Mo	9.9	8.4	7.4	*4.5	9.1
St. Joseph, Mo	11.4	9.5	8.5	*4.5	8.9
Fargo, N. D	13.7	12.2	10	5.5	12.1
Huron, S. D	12.7	11.5	11	5.5	11.4
Wichita, Kans	10.3	8	6.5	4.5	8

Stanavo Aviation 73 Octane

Chicago, Ill	15.9	4.5
Milwaukee, Wis	16.1	5.5
Minneapolis, Minn	16.3	5.5
St. Louis, Mo	15.5	*4.5
Kansas City, Mo	15.2	*4.5
Fargo, N. D	17.5	5.5
Huron, S. D	16.8	5.5

	Oleum Spirits	V.M.&P. Naphtha	Stani-sol	*Taxes
(Prices are base prices before discounts)				
Chicago	13.5	13.8	12.8	4.5
Detroit	16	15	16.5	4.5
K. C., Mo	13.7	14.7	14.2	1.5
St. Louis, Mo	14	15	13.2	1.5
Milwaukee	14.6	15.6	15.1	5.5
Minneap'lis	14.8	15.8	13.5	5.5

Fuel Oils T.W.

	Standard Heater Oil Chicago:
1-99 gals	8.75
100-149 gals	7.75
150 gals. & over	7.25

	Stanolex No. 1	Stanolex Furnace Oil
1-99 gals	8.5	8.5
100-149 gals	7.5	7.5
150-399 gals	7.25	7.25
400 gals. & over	6.75	6.75

	Stanolex Fuel Oil A	Stanolex Fuel Oil B
1-99 gals	7.5	7.5
100-399 gals	6.5	6.5
400-749 gals	5.5	5.5
750 gals. & over	4.75	4.75

	Stanolex Bunker C Fuel Oil
1-399 gals	6
400-999 gals	5
1000 gals. & over	4

Other Points:	Stanolex No. 1	Stanolex Furnace Oil
Indianapolis		
1-99 gals	...	*8.5
100 gals. & over	...	*7.5
Detroit		
1-99 gals	...	7.8
100 gals. & over	...	7.8
Milwaukee		
1-99 gals	9.2	8.7
100 gals. & over	8.2	7.7
Minneapolis		
1-99 gals	8.2	8.2
100 gals. & over	...	7.2
100-199 gals	7.7	...
200 gals. & over	7.2	...
St. Louis		
1-99 gals	8	7.5
100 gals. & over	7	6.5
Kansas City		
1-49 gals	7.8	...
50 gals. & over	6.8	...
1-99 gals	...	7.8
100 gals. & over	...	6.8

***Taxes:** In gasoline tax column are included these city taxes—Kansas City, St. Joseph, and St. Louis, 1c. Indiana kerosine and fuel oil prices are ex 4c state tax: Iowa kerosine prices are ex 3c state tax. In naphtha tax column are included 1.5c federal tax and state taxes.

S. O. Nebraska

Standard Red Crown Gasoline
(*Regular Grade*)

	T.W.	Dealer	Gaso-line Taxes	Kero-sine T.W.
Omaha	11.4	6.9	6.5	9.8
McCook	11	7.9	6.5	8.5
Norfolk	11.5	9.9	6.5	9.9
North Platte	11.8	10	6.5	10.2
Scottsbluff	10.9	8	6.5	9.5

S. O. Louisiana

Esso Gasoline (*Regular Grade*)

	Consumer Tank Car	Dealer T.w.	Gaso-line Taxes	Kero-sine T.W.
New Orleans, La	6.75	9.25	8.5	*9
Baton Rouge, La	6.75	9.25	8.5	*9.5
Alexandria, La	6.75	9.25	8.5	*9.5
Lafayette, La	7	9.5	8.5	*9
Lake Charles, La	7	9.5	8.5	*9
Shreveport, La	6	8.5	8.5	*9
Knoxville, Tenn	9.5	12	8.5	12.5
Memphis, Tenn	7.25	9.75	8.5	10.5
Chattanooga, Tenn	9	10	8.5	11
Nashville, Tenn	8.75	10.5	8.5	10
Bristol, Tenn	9.75	9.75	8.5	12
Little Rock, Ark	7.25	9.75	8	10

*Louisiana kerosine prices are ex 1c state tax.
Discounts:
Esso Gasoline—To individed dealers, 0.5c off dealer t.w.

Humble Oil & Refining Co.

Humble Motor Fuel (Regular Grade)
Thriftane (*Third Grade*)

	Humble *Tank Wagon	Re-tail	Thriftane *Tank Wagon	Re-tail	Gaso-line Taxes
Dallas, Tex	6.5	9.5	5.5	8	5.5
Ft. Worth, Tex	6.5	10.5	5.5	8.5	5.5
Houston, Tex	8	12	6	9	5.5
San Antonio, Tex	8	12	6	9	5.5

	Kerosine *Tank Wagon	Retail
Dallas, Tex	7	11
Ft. Worth, Tex	7	11
Houston, Tex	8	11
San Antonio, Tex	7	11

	74 Oct. Aviation Gasoline, Clear Tank Car
FOB Baytown, Tex	8.5

*To all classes of dealers & consumers.

The Texas Co.

	Gasoline—Dealer Fire-Chief (*Regular*)	T.W. Indian (*3rd Grade*)	Gaso-line Taxes
Dallas, Tex	6.5	5.5	5.5
Ft. Worth, Tex	6.5	5.5	5.5
Wichita Falls, Tex	8	5.5	5.5
Amarillo, Tex	8	5.5	5.5
Tyler, Tex	7.5	5.5	5.5
El Paso, Tex	10	9	5.5
San Angelo, Tex	7.5	5.5	5.5
Waco, Tex	7.5*	5.5**	5.5
Austin, Tex	8	6	5.5
Houston, Tex	8	6	5.5
San Antonio, Tex	8	6	5.5
Port Arthur, Tex	8	6	5.5

*Less 1c temporary allowance to all dealers.
**Less 0.5c temporary allowance to all dealers

Continental Oil

	Conoco Bronz-z-z (*Regular*) †Tank Wagon	De-mand (*3rd Grade*)	Gaso-line Taxes	Kero-sine T.W.
Denver, Col	8.5	7.5	5.5	10.5
Grand Junction, Col	12	11	5.5	12
Pueblo, Col	8.5	7.5	5.5	9
Casper, Wyo	11	10	5.5	11.5
Cheyenne, Wyo	10	9	5.5	11
Billings, Mont	11	10	6.5	12
Butte, Mont	10	9	6.5	13
Great Falls, Mont	10	9	6.5	12
Helena, Mont	10	9	6.5	12.5
Salt Lake City, Utah	11.5	10.5	5.5	14
Boise, Ida	13.1	12.1	6.5	16
Twin Falls, Ida	14.1	13.1	6.5	16.5
Albuquerque, N. M.	10	9	*7	9.5
Roswell, N. M	8	7	*7	8
Santa Fe, N. M	10	9	*7.5	9.5
Ft. Smith, Ark	8.5	5.75	*5.5	6.5
Little Rock, Ark	9.25	5.4	8	8
Texarkana, Ark	8.5	6.5	*5.5	6
Muskogee, Okla	7.5	6.5	5.5	7
Oklahoma City, Okla.	7	6.5	5.5	7
Tulsa, Okla	7	6.5	5.5	7

*Taxes: In gasoline tax column are included these city taxes—Albuquerque, & Roswell, 0.5c; Santa Fe, 1c. Texas 4c state tax applies within city limits of Texarkana, Ark.; Okla. 4c state tax applies within city limits of Ft. Smith, Ark.

†To consumers & dealers

Discounts: To dealers only — Cheyenne 1.5c on Bronz-z-z & Demand.

S. O. California

Standard Gasoline (*Regular Grade*)
Flight Gasoline (*Third Grade*)

	Standard Tank Truck	Standard Retail	Flight Tank Truck	Flight Retail	Gaso-line Taxes
San Francisco, Cal	13	14	11	12	4.5
Los Angeles, Cal	12.5	13.5	10.5	11.5	4.5
Fresno, Cal	14	15	12	13	4.5
Phoenix, Ariz	15	16	12	13	6.5
Reno, Nev	15	16	13	14	5.5
Portland, Ore	13.5	14.5	11.5	12.5	6.5
Seattle, Wash	13.5	14.5	11.5	12.5	6.5
Spokane, Wash	15	16	13	14	6.5
Tacoma, Wash	13.5	14.5	11.5	12.5	6.5

	Stanavo Tank Truck	Aviation Gasoline Taxes	Kerosine Tank Truck
San Francisco, Cal	15.5	4.5	11.5
Los Angeles, Cal	15	4.5	10
Fresno, Cal	16.5	4.5	12.5
Phoenix, Ariz	17.5	6.5	*12.5
Reno, Nev	17.5	5.5	13.5
Portland, Ore	16	6.5	13.5
Seattle, Wash	16	6.5	13.5
Spokane, Wash	19	6.5	16.5
Tacoma, Wash	16	6.5	13.5

*Taxes: Phoenix kerosine price is ex 5c state tax.
Discounts:
To Resale & Commercial Consumers—3c off posted tank truck tax included price on Standard & Stanavo Aviation, 2c off on Flight. Deliveries less than 40 gals. to commercial consumer trade, 1c a gal. above posted tank truck tax included price, except single deliveries to Marine trade only which are billed at posted tank truck tax included price less 3c for Standard & Stanavo Aviation, and less 2c for Flight.
Kerosine—Tank car and truck & trailer deliveries, 3c off posted tank truck price; plant stem deliveries to jobbers, 2.5c off posted tank truck price.

Canada

PRICES OF IMPERIAL OIL LTD.
Per Imperial Gallon, which is 1.2 U. S. Gallons
3-Star Imperial Gasoline (*Regular Grade*)

	Gasoline T.W.	Gasoline Taxes	Kero-sine T.W.
Hamilton, Ont	16.5	8	17
Toronto, Ont	16.5	8	17
Brandon, Man	21	7	23
Winnipeg, Man	20.5	7	22.5
Regina, Sask	18	7	20
Saskatoon, Sask	20.8	7	22.8
Edmonton, Alta	18.9	7	20.9
Calgary, Alta	16	7	18
Vancouver, B. C	16	7	23
Montreal, Que	16	8	16.5
St. John, N. B	14.50	10	18
Halifax, N. S	14.50	10	18

Discounts: Gasoline—Maritime Provinces—undivided & divided dealers, t.w. price; British Columbia—undivided and divided dealers, 2c off t.w. price; balance of territory—undivided dealers, 1c off t.w. price, divided dealers, t.w. price.

Tank Wagon Price Changes

(These changes have been made in price tables)

S. O. New Jersey—Esso Gasoline:
Prices up 0.5c generally in Maryland & D. of C., May 19. Prices up 1c generally in West Va. May 19 except Wheeling t. w. up 0.95c. T. C. prices up 1c, t. w. 0.5c generally in Virginia May 19. New Jersey prices up 0.6c May 20.

Socony-Vacuum—Mobilgas:
Richmond (N.Y.C.) prices up 0.6c May 23.

Atlantic Refining—White Flash Gasoline:
Prices up May 21 as follows: Philadelphia, Dover & Wilmington, Del. 0.5c; Atlantic City, Camden & Trenton 0.6c. Maryland points & Richmond, Va. up 0.5c May 19.

S. O. Ohio—Sohio X-70:
Dayton reseller cut 0.2c May 21.

S. O. Kentucky—Crown & Stanolind Gasolines:
Prices up 0.5c to 1.5c at all points May 12, except Paducah & Jackson unchanged.

S. O. Indiana—Red Crown & Stanolind Gasolines:
Prices up 0.5c generally at all points May 26, except Chicago unchanged.

S. O. Indiana—Kerosine:
Prices up 0.5c generally at all points May 26.

S. O. Nebraska—Red Crown Gasoline:
McCook dealer cut 0.5c May 16. Scottsbluff dealer cut 0.5c May 10.

Continued on page 54

CRUDE OIL PRICES

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates shown.

EASTERN & CENTRAL STATES FIELDS

PENNSYLVANIA GRADE

Posted by Jos. Seep Purch. Agency (May 21, '41)

Bradford-Allegany $2.55
Southwest Penna $2.20
Eureka (West Va.) $2.14
Corning, O. (May 27, '41) $1.31

Posted by Tide Water Asso'n. Oil Co. (May 21, '41)

Bradford-Allegany $2.55

Posted by The Pennzoil Co. (May 21, '41)

National Transit $2.48*

Posted by Valvoline Pipe Lines (May 21, '41)

Bradford (Elk & McKean Counties, Pa.) $2.55
Warren, Forest, Venango, Clarion & Butler Counties, Pa $2.48
Allegheny, Beaver, Washington & Greene Counties, Pa $2.20
West Virginia $2.14
South Eastern Ohio $2.10

*Applies to Cochran, Franklin, Hamilton & Doolittle districts; prices in other lower districts range down to $2.43 per bbl. at well.

MICHIGAN

Posted by Pure Oil Co. (May 1, '41)

Midland, Midland County $1.37
Sherman $1.32

Posted by Simrall Corp. (May 1, '41)

Greendale, Porter, Vernon, Crystal & Wise $1.37
Buckeye, Bentley, Edenville, Beaverton & Monitor (sweet crude type) $1.35
Freeman, Redding, Lincoln & Winterfield $1.32
West Branch-Arenac $1.17
Hamilton-Grout $1.22

Posted by Sohio Corp. (Mich. Div.)

Traverse crude in Allegan, Kent, Ottawa & Van Buren Cos. (May 5, '41) $1.38
Trenton crude, Monroe Co. (May 5, '41) $1.32

Posted by Bay Pipe Line Corp. (May 1, '41)

Saginaw & Wise $1.37
Buckeye, Bentley & Kawkawlin $1.35
Clare $1.06
Adams $1.20

ILLINOIS-INDIANA-KENTUCKY-OHIO

Posted by Sohio Corp. (May 21, '41)

Illinois Basin, including Griffin pool $1.37
Carmi Storms, Ill. area $1.35
Birk City, Ky. area $1.32
Corydon, Ky. area, Henderson $1.32

Posted by Ohio Oil Co. (May 21, '41)

Illinois Basin $1.37
Eastern Ill. & Western Ind. 1.22

Posted by Carter Oil Co. (May 21, '41)

Louden, Fayette Co. Ill. $1.37

Posted by Mohawk Oil Lines, Inc. (May 21, '41)

Southern Illinois $1.37

Posted by Ashland Oil & Transp. Co.

Somerset oil in Ash. Lines, Ky.: (May 21, '41)

Big Sandy River $1.32
Kentucky River $1.40

Posted by Owensboro-Ashland Co.

Owensboro, Ky. area (May 21, '41) $1.32

Posted by S. O. Ohio (May 1, '41)

Lima, O. $1.10
Cleveland, Lodi & Chatham (O.) areas $1.15

MID-CONTINENT

OKLAHOMA-KANSAS-NORTH TEXAS

(See below for companies posting and dates)

Gravity	Schedule No. 1	Schedule No. 2	Schedule No. 3	Schedule No. 4
Below 21	$0.85	$0.75	$0.70	$0.78
21-21.9	.87	.78	.73	.80
22-22.9	.89	.81	.76	.82
23-23.9	.91	.84	.79	.84
24-24.9	.93	.87	.82	.86
25-25.9	.95	.90	.85	.88
26-26.9	.97	.93	.88	.90
27-27.9	.99	.96	.91	.92
28-28.9	1.01	.99	.94	.94
29-29.9	1.03	1.02	.97	.96
30-30.9	1.05	1.05	1.00	.98
31-31.9	1.07	1.07	1.02	1.00
32-32.9	1.09	1.09	1.04	1.02
33-33.9	1.11	1.11	1.06	1.04
34-34.9	1.13	1.13	1.08	1.06
35-35.9	1.15	1.15	1.10	1.08
36-36.9	1.17	1.17	1.12	1.10
37-37.9	1.19	1.19	1.14	1.12
38-38.9	1.21	1.21	1.16	1.14
39-39.9	1.23	1.23	1.18	1.16
40 & above	1.25	1.25	1.20	1.18

Above schedules posted by:

No. 1: **S. O. Indiana** May 20, '41 in Okla. & Kans. **Sinclair-Prairie** May 20, '41 in Okla. & Kans. beginning with 25-25.9. **Continental** May 19, '41 in Okla. & Kans. beginning with Below 29 at $1.01.

No. 2: **Carter** May 20, '41 in Okla. **Shell** May 19, '41 in Okla. & Kans. (exclusive of Carter Co., Okla.) **Magnolia** May 21, '41 in Okla.

No. 3: **Shell** May 19, '41 in Carter Co., Okla.

No. 4: **Stanolind** May 20, '41 in N. Texas. **Magnolia** May 21, '41 in N. & N. Central Texas. **Sinclair-Prairie** May 21, '41 in Mexia & N. Central Texas. **Continental** May 21, '41 in N. Texas. **Magnolia, Sinclair-Prairie & Continental** schedules begin with Below 29 at $0.94.

TEXAS & NEW MEXICO FIELDS

Posted by Humble Oil & Refining Co.—(May 21, 1941)

Gravity	Refugio	Texas Gulf Coast	Mirando	Anahuac	Dickinson	East Central Texas	West Central Texas	Panhandle, W. Texas & New Mex.	Hawkins Texas
Below 20	$1.08	$1.06	$1.03	$0.98	$0.93	.....	.....	$0.70	$0.80
20-20.9	1.10	1.08	1.05	1.00	95	.....	.....	.72	.82
21-21.9	1.12	1.10	1.07	1.02	97	.....	.....	.74	.84
22-22.9	1.14	1.12	1.09	1.04	99	.....	.....	.76	.86
23-23.9	1.16	1.14	1.11	1.06	1.01	.....	.....	.78	.88
24-24.9	1.18	1.16	1.13	1.08	1.03	.....	.....	.80	.90
25 & above	.....	.....	.....	.....	.....	.....	.....	.....	.92
25-25.9	1.20	1.18	1.15	1.10	1.05	$0.97	$0.88	.82	.....
26-26.9	1.22	1.20	1.17	1.12	1.07	.99	.90	.84	.....
27-27.9	1.24	1.22	1.19	1.14	1.09	1.01	.92	.86	.....
28-28.9	1.26	1.24	1.21	1.16	1.11	1.03	.94	.88	.....
29-29.9	1.28	1.26	1.23	1.18	1.13	1.05	.96	.90	.....
30-30.9	1.30	1.28	1.25	1.20	1.15	1.07	.98	.92	.....
31-31.9	1.32	1.30	1.27	1.22	1.17	1.09	1.00	.94	.....
32-32.9	1.34	1.32	1.29	1.24	1.19	1.11	1.02	.96	.....
33-33.9	1.36	1.34	1.31	1.26	1.21	1.13	1.04	.98	.....
34-34.9	1.38	1.36	1.33	1.28	1.23	1.15	1.06	1.00	.....
35-35.9	1.40	1.38	1.35	1.30	1.25	1.17	1.08	1.02	.....
36-36.9	1.42	1.40	1.37	1.32	1.27	1.19	1.10	1.04	.....
37-37.9	1.44	1.42	1.39	1.34	1.29	1.21	1.12	1.06	.....
38-38.9	1.46	1.44	1.41	1.36	1.31	1.23	1.14	1.08	.....
39-39.9	1.48	1.46	1.43	1.38	1.33	1.25	1.16	1.10	.....
40 & above	1.50	1.48	1.45	1.40	1.35	1.27	1.18	1.12	.....

Refugio: Includes crude purchased in East White Point, Greta, Melon Creek, O'Connor-McFaddin, Plymouth, Saxet, Taft, & Tom O'Connor fields.

Texas Gulf Coast: Includes crude purchased in Amelia, Clear Lake, Goose Creek, Hastings, Magnet, Mykawa, Mykawa New, Raccoon Bend, South Thompsons, Sugarland, Thompsons, & Webster fields.

Mirando: Includes crude purchased in Blanchard, Bridwell, Colorado, Comitas, Eagle Hill, Escobas, Fitzsimmons, Glen, Government Wells (North & South), Heyser, Hoffman, Kelsey, Kohler, Loma Novia, Lundell, Manila, Mirando Valley, Placedo, Randado, Sarnosa, & Tesoro fields.

Anahuac: Includes crude purchased in Anahuac, Angleton, Cedar Point, Fishers' Reef, Hull (Old & New), Pierce Junction, Red Fish Reef, & Turtle Bay fields.

Dickinson: Includes crude purchased in Dickinson, Gillock, Hardin, League City, & Rowan fields.

East Central Texas: Includes crude purchased in Anderson, Cherokee, Limestone, & Navarro Counties, and Navarro Crossing field.

West Central Texas: Includes crude purchased in Brown, Callahan, Comanche, Eastland, Fisher, Haskell, Jones, Shackelford, Stephens, & Throckmorton Counties.

Panhandle, West Texas & New Mexico: Includes crude purchased in Carson, Gray, Hutchinson & Wheeler Counties; Andrews, Crane, Crockett, Ector, Gaines, Glasscock, Howard, Reagan, Upton, Winkler, & Yoakum Counties, Texas; Lea County, N. M.

Hawkins: Includes crude purchased in Hawkins Field, Wood County, Texas.

Conroe $1.43
Tomball 1.40
Van 1.08
Talco 0.79
East Texas & Flag Lake $1.25
Flour Bluff, E. Flour Bluff 1.33
Salt Flat, N. Salt Flat 1.14
Darst Creek, Hilbig, Carroll 1.14
Clark, Zoboroski $1.14
Alice, Benavides (N. Sweden), Sun 1.35
Ben Bolt, Clark-Muil, Tom Graham 1.35
Yates (Pecos) 0.95
La Rosa 1.33

MAGNOLIA PETROLEUM CO.

(May 21, '41)

Panhandle, Tex.—Same as Humble except Magnolia begins with Below 29 at $0.88.

West Texas—In Crane, Upton, Howard, Glasscock, Mitchell, Winkler, Cochran, Hockley, Yoakum & Gaines Cos.—Same as Humble except Magnolia begins with Below 25 at $0.80.

N. Mexico—In Lea Co.—Same as Humble except Magnolia begins with Below 25 at $0.80 & ends with 36 & above at $1.04.

Cass & Panola Cos., Tex.—Below 25 at $0.88, plus 2c per degree of gravity to 40 & above at $1.20.

Mirando, Tex.—Same as Humble.

East Texas $1.25
Darst Creek 1.14
Luling 1.05
Talco ..... .79
Lytton Springs $1.17
Cleveland-Liberty Co. 1.26
Tomball 1.40

SINCLAIR-PRAIRIE OIL MARKETING CO.

(May 21, '41, except Texas Panhandle May 20, '41)

West Texas, Texas Panhandle & Lea Co., N. M.—Same as Humble except Sinclair-Prairie begins with Below 25 at $0.80.

Texas Gulf Coast—Same as Humble.

East Texas $1.25
Eddy Co., N. M. ..... .94
Long Lake, Tex. $1.23

STANOLIND OIL PURCHASING CO.

(May 21, '41)

Clinton, Tex.—Same as Humble, Tex. Gulf Coast except Stanolind begins with Below 21 at $1.08.

Fairbanks, N. Houston & Rosslyn, Tex.—Same as Humble Dickinson schedule.

E. Texas $1.25
Satsuma & Tomball, Tex. $1.40

STANOLIND OIL & GAS CO.

(May 21, '41)

W. Beaumont & Spindletop (Jefferson Co., Tex.) **& High Island** (Galveston Co., Tex.)—Same as Humble Tex. Gulf Coast.

Hendrick & Henderson (Winkler Co., Tex.)—Same as Humble Panhandle except Stanolind begins with Below 26 at $0.82.

SHELL OIL CO., INC.

(May 20, '41)

West Texas & Lea Co., N. M.—Same as Humble except Shell ends with 36 & above at $1.04.

Fisher Co., Tex.—Same as Humble W. Central Texas except Shell begins with Below 25 at $0.86.

East Texas $1.25
Livingston field, Polk Co., Tex. 1.25
Pecos Co., Tex., except Yates Shallow pool $0.95
Pecos Co., Yates Shallow pool ..... .82

CONTINENTAL OIL CO.

(May 21, '41)

Carson & Hutchinson Cos., Tex.—Same as Humble Panhandle except Continental begins with Below 29 at $0.88.

Mirando, Tex.—Same as Humble except Continental begins with Below 21 at $1.05.

Wade City & Clara Driscoll, Tex.—Same as Humble Refugio except Continental begins with Below 21 at $1.10.

Alfred & Magnolia City, Tex., $1.35.

Eddy Co., N. M.—Below 29 at $0.78, plus 2c per degree of gravity up to 40 & above at $1.02.

PAN AMERICAN PRODUCTION CO.

(May 21, '41)

Hastings & S. Houston, Tex.—Same as Humble Tex. Gulf Coast except Pan Am. begins with Below 21 at $1.08.

Gillock, Tex.—Same as Humble Dickinson except Pan Am. begins with Below 21 at $0.95.

East Texas $1.25
Cayuga, Tex. ..... .90

CRUDE OIL PRICES

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates shown.

CALIFORNIA

Posted by S.O. California, April 24, 1941

(All gravities above those quoted take highest price offered in that field)

Gravity	Signal Hill (Long Beach)	Wilmington	El Segundo	Seal Beach	Huntington Beach	Inglewood	Olinda Brea Canon	Athens-Rosecrans	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Greeley, Canal, Wasco	Colea Levee	Mountain View	Elk Hills, Buena Vista Hills, Midway-Sunset, Lakeview Area	Lost Hills	Coalinga
14-14.9	....	$0.63	....	....	$0.65	....	$0.65	....	$0.66	$0.65	$0.65	$0.67	....	....	....	....	....	$0.68	$0.68	$0.68
15-15.9	....	.64	....	....	.68	$0.70	.65	....	.67	.65	.66	.67	....	....	....	....	....	.68	.68	.68
16-16.9	....	.65	$0.73	....	.70	.73	.66	....	.69	.66	.68	.67	....	....	....	....	....	.68	.68	.68
17-17.9	....	.68	.75	....	.73	.76	.68	....	.70	.68	.71	.67	....	....	....	....	....	.68	.72	.68
18-18.9	$0.74	.71	.77	....	.75	.79	.71	....	.72	.71	.74	.67	....	....	....	....	....	.72	.75	.68
19-19.9	.78	.75	.80	....	.79	.82	.75	....	.75	.73	.77	.68	....	....	....	....	$0.68	.75	.78	.68
20-20.9	.82	.80	.84	....	.83	.86	.79	....	.79	.76	.81	.70	....	....	....	....	.70	.79	.81	.70
21-21.9	.86	.85	.88	....	.87	.89	.82	....	.84	.79	.85	.74	....	....	....	....	.73	.84	.84	.73
22-22.9	.90	.89	.91	$0.77	.91	.92	.86	....	.88	.83	.89	.78	....	....	....	....	.76	.88	.87	.77
23-23.9	.94	.93	.94	.83	.94	.95	.89	....	.93	.88	.93	.82	....	....	....	....	.80	.93	.90	.80
24-24.9	.97	.97	.98	.88	.98	.98	.93	....	.97	.92	.97	.86	$0.93	....	....	....	.84	.97	.93	.83
25-25.9	1.01	1.02	1.02	.94	1.02	1.01	.97	....	1.00	.96	1.01	.90	.96	....	....	....	.88	1.01	.95	.86
26-26.9	1.05	1.06	1.05	.99	1.05	1.04	1.01	....	1.03	1.01	1.05	.94	1.00	....	....	....	.91	1.06	.98	.89
27-27.9	1.09	1.10	1.08	1.04	1.09	1.08	1.04	....	1.07	....	1.09	.98	1.04	....	....	....	.95	1.10	1.01	.92
28-28.9	1.13	1.14	1.11	1.08	1.12	1.11	1.07	....	1.10	....	....	1.01	1.07	$1.01	....	....	.99	1.14	1.04	.95
29-29.9	1.16	1.17	....	1.13	1.15	1.14	....	$1.10	....	....	....	1.05	1.11	1.05	....	....	1.02	1.19	1.06	.97
30-30.9	1.20	1.21	....	....	1.19	1.17	....	1.15	....	Elwood	....	1.08	1.15	1.09	$0.95	$1.03	1.05	1.23	1.09	1.00
31-31.9	....	....	....	....	....	1.20	....	1.19	....	Terrace	....	1.12	1.18	1.13	.99	1.06	1.09	....	....	1.02
32-32.9	....	....	....	....	....	....	....	1.24	....	F.o.b. Ship		1.16	1.22	1.17	1.02	1.09	1.12	....	....	1.05
33-33.9	....	....	....	....	....	....	....	1.28	....	$1.19	....	1.20	....	1.21	1.05	1.12	....	....	....	1.07
34-34.9	Kettleman Hills			....	....	....	....	1.32	....	1.23	....	1.25	....	1.25	1.09	1.15	....	....	....	1.10
35-35.9	....	1.19	....	....	....	....	....	....	....	1.26	....	1.30	....	....	1.12	1.18	....	....	....	....
36-36.9	....	1.23	....	....	....	....	....	....	....	....	....	1.34	....	....	1.16	1.21	....	....	....	....
37-37.9	....	1.26	....	....	....	....	....	....	....	....	....	1.39	....	....	1.19	....	....	....	....	....
38-38.9	....	....	....	....	....	....	....	....	....	....	....	1.43	....	....	1.22	....	....	....	....	....
39-39.9	....	....	....	....	....	....	....	....	....	....	....	1.47	....	....	....	....	....	....	....	....
40-40.9	....	....	....	....	....	....	....	....	....	....	....	1.50	....	....	....	....	....	....	....	....

Playa Del Rey: (FOB Standard Pipe Line) 20-20.9, $0.75; 21-21.9, $0.79; 22-22.9, $0.82.
Wheeler Ridge: 22-22.9, $0.71; 23-23.9, $0.74; 24-24.9, $0.77.
Newhall, Kern River, Kern Front, McKittrick & Round Mountain: 14-14.9, $0.68.

LOUISIANA-ARKANSAS

Posted by S. O. Louisiana, May 22, '41

Gravity	Atlanta, Ark. et al.	Caddo, La. et al.	Rodessa, La. et al.	Bunkie, La. et al.	Darrow, La. et al.	University, La. (Baton Rouge)
40 & above	$1.08	$1.18	$1.20	$1.30	$1.30	....
39-39.9	1.06	1.16	1.18	1.28	1.28	....
38-38.9	1.04	1.14	1.16	1.26	1.26	....
37-37.9	1.02	1.12	1.14	1.24	1.24	....
36-36.9	1.00	1.10	1.12	1.22	1.22	....
35-35.9	.98	1.08	1.10	1.20	1.20	....
35 & above	....	....	....	....	....	$1.36
34-34.9	.96	1.06	1.08	1.18	1.18	1.34
33-33.9	.94	1.04	1.06	1.16	1.16	1.32
32-32.9	.92	1.02	1.04	1.14	1.14	1.30
31-31.9	.90	1.00	1.02	1.12	1.12	1.28
30 & below	....	....	....	....	....	1.26
30-30.9	.88	.98	1.00	1.10	1.10	....
29-29.9	.86	.96	.98	1.08	1.08	....
28-28.9	.84	.94	.96	1.06	1.06	....
27-27.9	.82	.92	.94	1.04	1.04	....
26-26.9	.80	.90	.92	1.02	1.02	....
25-25.9	.78	.88	.90	1.00	1.00	....
Below 25	....	.86	.88	.98	....	....
24-24.9	.76	....	....	....	.98	....
23-23.9	.74	....	....	....	.96	....
22-22.9	.72	....	....	....	.94	....
21-21.9	.70	....	....	....	.92	....
Below 21	.68	....	....	....	.90	....

Atlanta schedule includes Buckner, Lewisville, Magnolia, Village & Schuler (Jones Sand), Ark.

Caddo schedule includes De Soto, Sabine, Fouke, Homer, Miller Co., Nebo & Sugar Creek.

Rodessa schedule includes Cotton Valley & Shreveport (Cross Lake).

Bunkie schedule includes Eola, Olla, & South Olla.

Darrow schedule includes Bayou Mallet, Choctaw, Jeanerette, Lirette, N. & S. Crowley, Port Allen, Port Barre, Potash, Roanoke, & St. Martinville.

Big Creek, Dorcheat, McKamie Distillates (Sour)	$1.15
Heavy Smackover Crude	.83
Cotton Valley Distillate	1.30
Cotton Valley (Holloway Sand Crude)	1.25
Lisbon Distillate	1.20

(Continued in next column)

LOUISIANA-ARKANSAS (Cont'd)

Posted by Shell Oil Co., Inc. (Apr. 1, '41)

Iowa District, La.

Below 18.	$0.80	23-23.9..	$0.94	29-29.9..	$1.09	
18-18.9..	.82	24-24.9..	.97	30-30.9..	1.11	
19-19.9..	.84	25-25.9..	1.00	31-31.9..	1.13	
20-20.9..	.86	26-26.9..	1.03	32-32.9..	1.15	
21-21.9..	.88	27-27.9..	1.05	33-33.9..	1.17	
22-22.9..	.91	28-28.9..	1.07	34 & above	1.19	

Roanoke District, La.

Below 18.	$0.75	23-23.9..	$0.89	29-29.9..	$1.04	
18-18.9..	.77	24-24.9..	.92	30-30.9..	1.06	
19-19.9..	.79	25-25.9..	.95	31-31.9..	1.08	
20-20.9..	.81	26-26.9..	.98	32-32.9..	1.10	
21-21.9..	.83	27-27.9..	1.00	33-33.9..	1.12	
22-22.9..	.86	28-28.9..	1.02	34 & above	1.14	

Black Bayou & White Castle Districts, La.—Same as Iowa District, except Black Bayou, etc. begins with Below 20 at $0.84.

Gibson field, Terrebonne Par, La.	$1.09
Happytown field, St. Martin Par., La.	1.05

Posted by Arkansas Fuel Oil Corp.

Urania, La. (Apr. 1, '41)	$1.05

Posted by Continental Oil Co. (Apr. 1, '41)

Tepetate, La.	$1.08
Ville Platte, La.	1.10
Lake Arthur, La.	1.08

Abbeville, La.

Below 36.	$0.97	37-37.9..	$1.01	39-39.9..	$1.05
36-36.9..	.99	38-38.9..	1.03	40 & above	1.07

CANADIAN FIELDS

Posted by Imperial Oil Limited Western Ontario (Nov. 6, 1939)

Petrolia	$2.10	Oil Springs	$2.17

Turner Valley Crude Oil (Sept. 12, '40)

(Prices FOB producer's tankage)

33-33.9..	$1.08	44-44.9..	$1.30	55-55.9..	$1.52
34-34.9..	1.10	45-45.9..	1.32	56-56.9..	1.54
35-35.9..	1.12	46-46.9..	1.34	57-57.9..	1.56
36-36.9..	1.14	47-47.9..	1.36	58-58.9..	1.58
37-37.9..	1.16	48-48.9..	1.38	59-59.9..	1.60
38-38.9..	1.18	49-49.9..	1.40	60-60.9..	1.62
39-39.9..	1.20	50-50.9..	1.42	61-61.9..	1.64
40-40.9..	1.22	51-51.9..	1.44	62-62.9..	1.66
41-41.9..	1.24	52-52.9..	1.46	63-63.9..	1.68
42-42.9..	1.26	53-53.9..	1.48	64 & over	1.70
43-43.9..	1.28	54-54.9..	1.50		

Absorption Gasoline (Jan. 5, 1938)

90% Rec., 20 lb. Reid v.p.	$1.94
90% Rec. 17 lb. Reid v.p.	$2.08

ROCKY MOUNTAIN FIELDS

Posted by Stanolind Oil & Gas Co. (Oct. 11, '38, except Tensleep Feb. 1, '41, and Frannie Light, Grass Creek Heavy, Hamilton Dome, & Iles Apr. 1, '41)

Salt Creek (except Tensleep crude), Midway & Dutton Creek, Wyo.

Below 29.	$0.86	32-32.9..	$0.94	36-36.9..	$1.02
29-29.9..	.88	33-33.9..	.96	37-37.9..	1.04
30-30.9..	.90	34-34.9..	.98	38-38.9..	1.06
31-31.9..	.92	35-35.9..	1.00	39-39.9..	1.08
				40 & above	1.10

Wyoming:		**Wyoming:**	
Tensleep Crude	$0.6515	Grass Creek Light	$0.90
Frannie Light	.65	Grass Creek Heavy	.45
Frannie Heavy	.42	Elk Basin	.90
Hamilton Dome	.40	Iles, Colo.	.97

Posted by S. O. Indiana (June 5, '39)

Lance Creek, Wyo.	$0.77

Posted by Ohio Oil Co. (Oct. 11, '38)

Elk Basin, Wyo.	$0.90
Grass Creek, Wyo. Light	.90
Rock Creek, Wyo. (April 1, '41)	1.05
Lance Creek, Wyo. (April 1, '41)	.82
Dry Creek, Mont.	.92
Sunburst, Mont. (Nov. 16, '37)	.90

Posted by Continental Oil Co. (April 1, '41) Ft. Collins & Wellington, Col.

Below 29.	$0.86	32-32.9..	$0.94	36-36.9..	$1.02
29-29.9..	.88	33-33.9..	.96	37-37.9..	1.04
30-30.9..	.90	34-34.9..	.98	38-38.9..	1.06
31-31.9..	.92	35-35.9..	1.00	39-39.9..	1.08
				40 & above	1.10

Canon City & Florence, Col.	$0.95	Big Muddy, Wyo.	$0.98
Cat Creek, Mont.	1.15	Lance Creek, Wyo.	.82

Tank Wagon Price Changes

(Continued from page 52)

S. O. Louisiana—Esso Gasoline:
Memphis & Nashville prices up 0.25c May 21.

Humble Oil & Refining—Humble & Thriftlane:
Dallas 1c discount to dealers discontinued Apr. 2.

Humble Oil & Refining—Kerosine:
Dallas prices up 1c Apr. 22.

The Texas Co.—Fire Chief Gasoline:
Wichita Falls & Amarillo up 0.5c May 14.
El Paso up 1c Apr. 23.

The Texas Co.—Indian Gasoline:
El Paso up 1c Apr. 23.

S. O. California—Standard & Flight Gasolines:
Prices up 0.5c generally throughout territory May 23.

CLASSIFIED

Address all Blind Box Number ads to National Petroleum News, 530 Penton Building, Cleveland, Ohio, unless otherwise specified.

For Sale

1,015-gallon, 4-compartment Fruehauf Tank and Trailer, with Ford Tractor. Equipment ready to run. $500 cash. Direct inquiries to Lamson Oil Corporation, 375 Allens Avenue, Providence, Rhode Island.

Butler combination trailer carrying either twelve ton freight or three thousand gallons liquid load in lower compartments. Excellent condition. Complete with fifth wheel. Used twenty-seven months. One-third original cost. Box No. 896.

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Established, reputable, fully equipped North Side Chicago bulk plant doing over one million gallons annually available to party able to handle financially. Have good refinery connections, etc. For full details address Box No. 897.

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Must be fairly recent and in good working order. Address inquiries to Box No. 900.

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World traveller, linguist. In oil business 20 years. European introducer of various branded motor oils, bulk sales, petrolatums, wares, white oils, bright stocks, etc. Seeks export management for Europe. Residence wheresoever desired.

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Strong, independent refiner needs two top salesmen for immediate employment. A lubricating sales engineer with proper technical and practical experience. Also a fuel oil salesman who knows his business in selling jobber-distributor trade. In confidence, state age, complete details on training, experience and salary requirements, looking toward personal interview. Box No. 898.

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Wanted—capable and technically trained refinery superintendent. Experienced in construction. Give experience and full qualifications. Answers will be held confidential. Address Box No. 899.

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· PERSONALS ·

B. H. Taggart, vice-president of Sweney Gasoline & Oil Co. and first president of the Illinois Petroleum Marketers Assn., retired from active duty this month. Starting as a tank truck driver in Peoria, Ill., Mr. Taggart's 30 years in the oil industry have emphasized his belief in the independent oil marketer's place in the scheme of things, he says. In retiring from active duty, Mr. Taggart, however, will continue his identity with the company.

* * *

Right after the "mortgage burning" scene—celebrating the liquidation of a $487,000 indebtedness and marking the first "debt-free" service in Tulsa's First Methodist Church—Pastor Golder Lawrence, in a "victory statement", honored **Ralph B. Roark,** vice-president of Shell Oil Co., Inc., for his part in making the ceremony possible. Placing the first "bond" on the fire was **J. H. McBirney,** Tulsa banker and oil royalty owner, while Dr. V. A. Hargis, district superintendent, Methodist Church; Dr. C. I. Pontius, president of the University of Tulsa, and Dr. Lawrence watched the proceedings. Mr. Roark was chairman of the executive committee of the "Let's Finish It" campaign conducted by the church to retire the bonded indebtedness.

'Burning the Mortgage'

J. H. McBirney places the first "bond" on the fire

Returning to his desk and ready for the New York Oil Trades sports outing and golf tournament, of which he is an active committee member, is **Homer F. Wilhelm,** New York, Socony-Vacuum Oil Co., Inc., who has been battling a two-week touch of pneumonia at his home at Rockville Center, Long Island.

* * *

Leland Johnson

Leland F. Johnson, Los Angeles, was promoted to assistant general sales manager for The Pennzoil Co. of California. Mr. Johnson has had "a six-year record of sustained selling" and will now work under **Paul R. "Pete" Casselman,** general sales manager and "a former sales-record-breaker himself, for Pennzoil. Johnson is the son of Lou Johnson, founder of Pennzoil Co. of California and president until his death in 1939.

* * *

Honoring approximately 200 of Shell Oil Co.'s and Shell Pipe Line Corp's Houston office employes with 10 years or more of service, Shell officials recently made additional presentations of 10, 15 and 20 year service emblems to 37. Congratulating **L. C. Geiler,** assistant personnel manager, on completion of 20 years of work with Shell was Vice-president **A. J. Galloway. B. L. Ryan** was the other 20 year man so honored. Others honored were: **M. C. Brunner,** who has just completed 10 years of service with Shell; **Mrs. Eva E. Parker,** 15 years; **T. S. Haywood,** 15 years; **Mr. Galloway** and **Mr. Geiler; W. Hafner,** 15 years; and **A. E. Smith,** 15 years.

The 10-year awards to Shell Oil Co. employes were presented by **O. D. Story,** Texas-Gulf area purchasing agent. Awards to Shell Pipe Line Corp. employes were presented by **R. B. High,** vice-president of the pipeline company. During the ceremonies presided over by **William Johnson,** assistant manager of the land department and chairman of the local Shell Ten and Over Club, it was revealed that Shell companies now have over 10,000 employes throughout the U. S. with at least 10 years' service, 3000 of whom have passed the 15-year mark.

F. L. Jehle

A. E. Landsittel

Six months ago, architects placed on paper the plans and specifications for Globe Oil & Refining Co.'s new two-story office building in Wichita, Kans. From the new executive offices, now completed, **F. L. Jehle,** Globe's vice-president and general manager, and **A. E. Landsittel,** general sales manager, will direct the company's activities.

* * *

After 34 years of service, **Hugo T. Zaremba,** general rate supervisor of the Standard Oil Co. of Indiana, will retire May 23 on a company annuity. Mr. Zaremba has been with Indiana Standard since Sept. 9, 1907. He started in the traffic department of the Chicago office as a rate clerk. In 1939 he was made general rate supervisor.

* * *

Bruce H. Robinson, Los Angeles, recently-elected chairman of Pacific Coast district of American Petroleum Institute's Division of Production, went to California in 1925 after working as an oil scout and tank builder in the Mid-Continent. Joining General Petroleum Corp. in 1927 as a production engineer, he became field superintendent in Los Angeles Basin district in 1937.

* * *

Drop us a Note

While NPN's staff writers follow your business activities 5 or 6 days each week, we're not keyhole or even golf green sncopers. Consequently, we don't know what you're doing aside from business—but we're interested. Thinking you might be willing to share this knowledge with the industry, why not tell us about your trips (business and pleasure) as well as parties. Drop us a note on your oil company's letterhead. We'll be watching our mail.

Refining Technology

INCLUDING INTERNATIONAL PETROLEUM TECHNOLOGY

TO—

America's Technologists,
Products of our Free Democracy,
Whose Skills will Perpetuate that Glorious Freedom

The American oil industry comes to this war with as fine and large a group of technical men as any other industry in the world. It is a group many times larger than at the time of the last war.

In this the oil industry is fortunate, while the country and the cause of Democracy and Freedom is especially fortunate.

The hope for Democracy lies in these oil industry scientists and in those of the automobile and steel and other industries. Oil industry scientists are providing the motor fuel and lubricants that permit the automobile and steel scientists to build the strongest and fastest planes and mechanized units for land and sea in the world—the only weapons that will beat Hitler.

PRODUCTS OF DEMOCRACY

These oil and other scientists are the products of a true Democracy, and their brain children that will save Democracy are the natural result of the progress of a real Democracy.

These scientists have been produced out of the competition of Democracy. They come from all walks of life and most of them started poor.

Free educational institutions in this country's fine technical schools, founded and maintained by the fruits of free and profitable American business, gave these men their opportunities. And free and profitable American business took them to its bosom when the free educational schools were done with them, and, from profits—yes "unconscionable profits" (according to some business critics) if you will, and by which you mean good profits—provided the hundreds of millions of dollars for research and experiment and development, which made our present Way of Life the civilization that it is.

What form of government, except one driven to War by a Hitler, would have provided the funds for such development?

Would or has a Hitler ever done as much for peacetime technology that makes things for the easier living and the happiness of all the people?

CAN DEFEAT DESPOTISM

American technologists, with the extra profits gained from free American industry, have provided the methods and the plans and the tools and even some of the equipment that will beat despotism, but they provided them for the better living of a free people.

American government has been good to scientists and to research but with all its bounties and high ambitions, we leave it to any man who knows the facts if the American government at any time in its history could have been prevailed upon to pour the millions into research and development that free and profitable American business has? To have poured these millions into seeming rat holes, and at times they proved to be rat holes? To take the big losses of this research and to keep on fighting with millions for an idea?

OF BENEFIT TO ALL

We can conceive of no group of peoples doing this except a free and venturing and profitable assortment of industries; industries that were permitted to make good profits and to keep and re-invest those profits as their management saw fit; industry, free of government halters, to venture on all enticing ideas.

Could a "planned economy" have made this country's technology this way? Some may think so but we certainly do not and we imagine there is considerable agreement with us among the thousands of technologists of the country.

This editorial salute is occasioned by all the technical meetings of recent weeks and particularly by the mid-year gathering of technologists of the American Petroleum Institute at Tulsa and the big annual gathering next month of that most aggressive and independent thinking body of scientists, the Society of Automotive Engineers.

We submit that Democracy's fate rests with these men who have done so much to make its freedom worthwhile and glorious, to not only the American people but to the people of the whole world, even to those in many a dictator's country, yes even to the serfs of Russia.

We hear of Army and Navy and all the others who contribute to war's machinery and to all these we give full credit for their labors and their sacrifices.

But we look to America's army of technologists, products of a free Democracy, to save that freedom of living which they have made so glorious and civilizing.

And we know we do not look in vain—W. C. P.

Air Preheaters for Petroleum Heaters

By L. A. Mekler* and H. A. Becker*

Presented at the American Petroleum Institute Mid-Year Meeting, Tulsa, May 21.

Since a large proportion of fuel used at refineries today is refinery gas, and this gas is being utilized in increasing extent as raw material for manufacture of high anti-knock motor fuel and of intermediates for other products, fuel economies become doubly attractive to the refiner. He thus reduces his fuel cost and at the same time conserves his supply of a valuable material.

Use of air preheaters in heat-exchanging high temperature flue gas in modern heaters with the air for combustion, is discussed in this and the accompanying article, as a practical means for securing fuel savings at refineries.

Extent of savings of heat losses that can be effected at various flue gas temperatures are discussed in the accompanying article; also in cases where the amount of excess air can be reduced. While air preheat increases flame temperature and may affect the rates of radiant-heat transfer in the heater, it is brought out that the resulting reduction in the amount of fuel used is an offsetting factor. If the heater is operated at the same capacity, the total radiant-heat absorption and the relation between the radiant and convection heat pickup may remain practically the same.

In discussing the economics of air preheaters, it is shown that there are optimum air preheat temperatures for all types of preheaters and operation of the preheater above this temperature may make its use unprofitable. Tables are given showing economics of preheaters as affected by type of preheater and by changes in the preheated air temperature.

L. A. Mekler

THE petroleum industry is one of the largest industrial consumers of fuel, using the equivalent of approximately 100,000,000 bbl. of fuel oil per year, which represents between 8 and 12 per cent of the heat content of the crude oil processed. The fuel requirements of the different refining operations may vary from 2 per cent of the crude processed for simple distillation up to 20 per cent for some of the thermal and catalytic processes.

Until quite recently most refineries produced nonsalable by-products in quantities greater than their fuel requirements, so that there was little, if any incentive to conserve fuel by improving the firing practice and by the installation of fuel-saving equipment. Improvements in oil-refining technique practically have eliminated the nonsalable liquid, semi-liquid, or solid by-products, and the development of new processes materially is reducing the quantities of gaseous by-products that are available for fuel. Most refineries, therefore, are using marketable fuels to a greater or lesser extent, so that fuel becomes an out-of-pocket expense that may affect the net earnings of refinery operations.

Fig. 1 shows the relative importance of the different fuels used in refineries in recent years, as disclosed by a survey of the Bureau of Mines. The trend is definitely away from solid and liquid fuels in favor of gaseous fuels, because these latter fuels are more amenable to manual —and particularly to automatic—control, which is desirable in the more exact refining operations carried out at present.

In 1937 refinery and natural gas represented better than 65 per cent of the total fuel consumption of the refineries covered by the survey—with fuel oil, coal, and coke together making up the remainder. Although the present trend is toward a still greater use of gaseous fuel, the available supply of gaseous fuel, particularly of refinery gas, is on the decline because of the utilization of refinery gas as raw material for the various processes for the manufacture of high anti-knock motor fuels, alcohols, intermediate chemicals, etc.

*Universal Oil Products Co., Chicago.

TABLE 1

Composition and Heating Value of Typical Dubbs Cracking-Plant Gas

Component	Mol Per Cent	Heating Value (Btu Per Cubic Foot) Gross	Net	Σ Heating Value (Btu Per Cubic Foot) Gross	Net
H_2	6.4	325	274	21	18
CH_4	30.6	998	900	305	276
C_2H_4	5.1	1,591	1,491	81	76
C_2H_6	19.1	1,759	1,610	336	308
C_3H_6	10.6	2,347	2,198	249	233
C_3H_8	16.8	2,532	2,330	425	392
C_4H_8	5.9	3,148	2,933	186	173
C_4H_{10}	5.5	3,329	3,076	183	169
Total	100.0			1,786	1,645

Specific gravity = 1.05.

Depletion of Heating Value

Table 2 and Fig. 2 show the rate of depletion of the available heating value of a representative cracking-plant gas shown in Table 1 after this gas has been subjected to certain processes for ultimate yield of high anti-knock

TABLE 2—Depletion of Heating Value of Cracking-Plant Gas by Various Processing Methods

Processing Method	Cubic Feet	Heating Value (Btu Per Cubic Foot) Gross	Net	Residual Gross Heat Available Per Original Cubic Foot
Original gas	1.000	1,786	1,645	1,786
After selective polymerization	0.971	1,748	1,605	1,698
After selective and non-selective polymerization	0.835	1,620	1,482	1,352
After selective and non-selective polymerization and butane dehydrogenation	0.780	1,498	1,372	1,168
After selective and non-selective polymerization and butane and propane dehydrogenation	0.612	1,215	1,110	744
Alternate Processing Method				
After alkylation	0.923	1,678	1,532	1,550
After alkylation and dehydrogenation	0.886	1,600	1,471	1,418
After alkylation, dehydrogenation, and non-selective polymerization	0.780	1,498	1,392	1,169

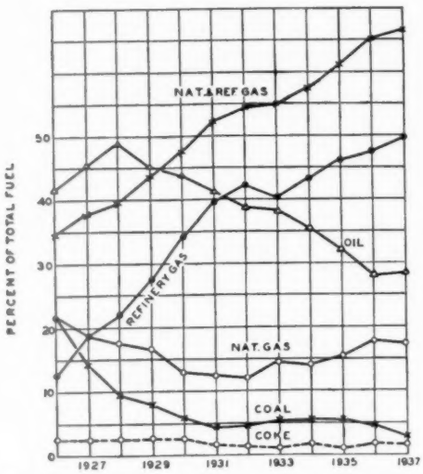

Fig. 1. Relative importance of fuels used in refineries

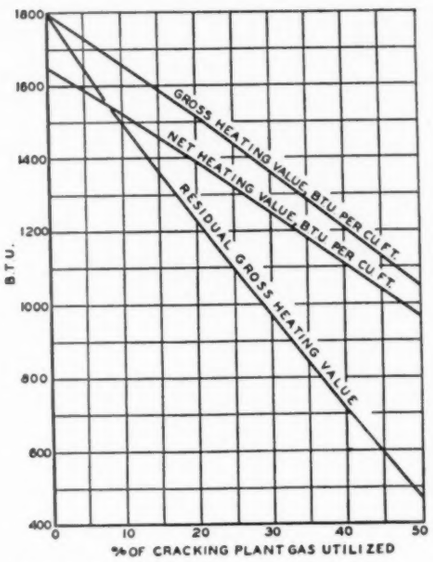
GROSS HEATING VALUE, BTU PER CU FT.
NET HEATING VALUE, BTU PER CU FT.
RESIDUAL GROSS HEATING VALUE
B.T.U.
% OF CRACKING PLANT GAS UTILIZED

Fig. 2. Rate of depletion of heating value of cracking-still gas with processing

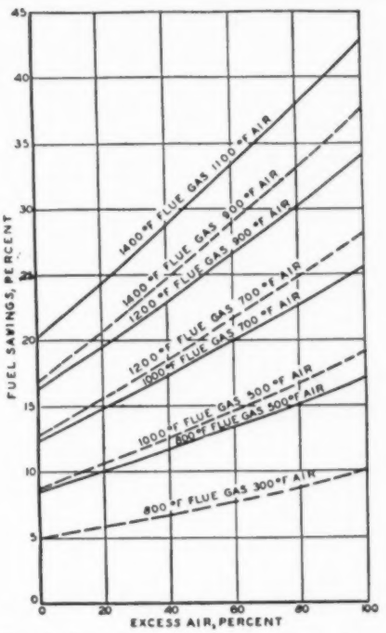
1400°F FLUE GAS 1100°F AIR
1400°F FLUE GAS 900°F AIR
1200°F FLUE GAS 900°F AIR
1200°F FLUE GAS 700°F AIR
1000°F FLUE GAS 700°F AIR
1000°F FLUE GAS 500°F AIR
800°F FLUE GAS 500°F AIR
800°F FLUE GAS 300°F AIR
FUEL SAVINGS, PERCENT
EXCESS AIR, PERCENT

Fig. 3. Fuel savings due to air preheat

motor fuels. Depending on the processing methods used, the gross heat available per cubic foot of the original gas is reduced from 1,786 B.t.u. per cu. ft. to 744 B.t.u. per cu. ft. in one case, and to 1,169 B.t.u. per cu. ft. in the other—representing a loss of 58½ per cent and 34½ per cent, respectively. Fuel economies in refineries, therefore, become desirable not only because of possible direct savings in the refining costs, but also because they permit conservation of the diminishing supply of gaseous fuel, the use of which is often a necessity in some of the thermal and catalytic oil-refining processes.

Most oil-refining operations are carried out at comparatively high incoming-oil temperatures because of heat exchange between the incoming oil and hot liquids or vapors produced in the refining operation. Conservation of cooling water or a desire to obtain certain specific types of fractionation often is the main cause of such heat exchange—the fuel savings being of secondary consideration. Because of the high inlet-oil temperatures, the temperature of the gases leaving most petroleum heaters is also comparatively high, ranging between 700 and 1,400 deg. F. Depending on the amount of excess air used for combustion and the stack temperature, the losses in the flue gases may be as high as 40 per cent of the generated heat, and are seldom less than 25 per cent. These losses may be cut to less than half by heat-exchanging the flue gases with the air used for combustion.

Economy of Heat-Exchanging Flue Gas

Fig. 3 shows the savings of fuel that can be obtained by heat-exchanging flue gases at temperatures of 800, 1,000, 1,200, and 1,400 deg. F., with the air used for combustion to preheat the air to within 300 and 500 deg. F. of the respective flue-gas temperatures when an average mixture of natural and refinery gas with various percentages of excess air is burned. The combustion characteristics of the gas are shown in Fig. 4. The fuel requirement at given flue-gas temperature and excess air, with no air preheat, is used as a base in the curves of Fig. 3. For example, with a flue-gas temperature of 800 deg. F. and 50 per cent excess air preheating the air to within 300 deg. F. of this temperature (500 deg. F. air) saves 12.5 per cent of the fuel that would be required with the same excess air if no air preheat were used.

Fig. 5 shows more specifically the savings that can be obtained by recovering heat from flue gases at an original temperature of 1,070 deg. F. by preheating the air to temperatures up to 700 deg. F., with various percentages of excess air used for combustion. The fuel requirement for any given excess air and with no air preheat is used

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May 28, 1941

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One type of regenerative air preheater, for heat-exchanging flue gases with the air used for combustion is described and the application to a de Florez downdraft cracking still furnace is shown ... R-168

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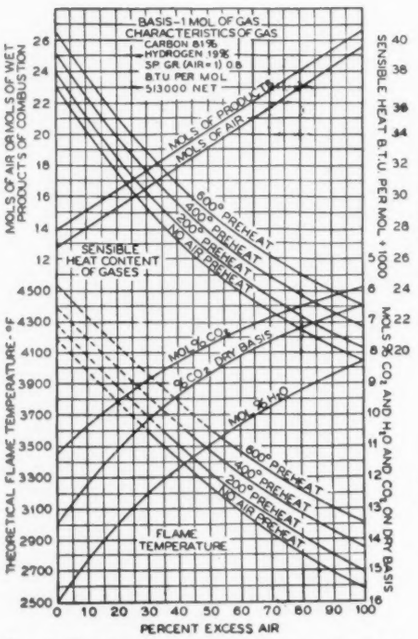

Fig. 4. Combustion characteristics of mixed-gas fuel

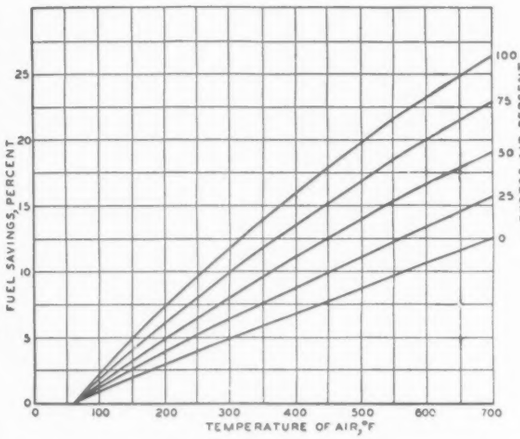

Fig. 5. Fuel savings with air preheat for various air temperatures and excess air-used—flue-gas temperature, 1,070 deg. F.

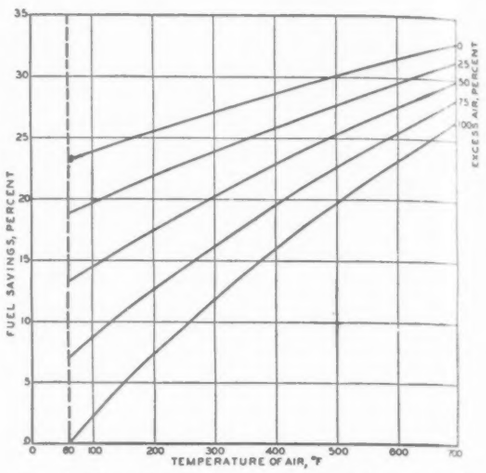

Fig. 6. The effect of air preheat and excess air on fuel savings — flue-gas temperature, 1,070 deg. F.

as a base in these curves. The curves show that the higher the excess air that must be used in a given heater, the greater are the savings obtainable with air preheat.

Economy of Air Preheat

Fig. 6 shows the fuel savings that can be obtained by air preheat, by reduction of the excess air used, and by a combination of both. The fuel requirement with 100 per cent excess air and no air preheat is used as a base in these curves. The curves show that within certain limits of possible savings, air preheat and reduction of excess air are interchangeable, and that the savings obtained by using both are cumulative. For example, a reduction of excess air from 100 per cent down to 50 per cent without air preheat results in a fuel saving of approximately 13 per cent, which is equivalent to the saving that can be obtained by preheating the air to 340 deg. F. without reducing the excess air used. By reducing the excess air to 50 per cent and preheating the air to 340 deg. F., a cumulative saving of approximately 21 per cent of the fuel used with 100 per cent excess air and no air preheat can be obtained.

With other things being equal, preheating of air results in more rapid and complete combustion so that, for given flame characteristics, the use of preheated air will assist in reducing the excess air used for combustion—thus making the cumulative fuel savings possible.

Modern petroleum heaters supply the major portion of the total heat absorbed by the oil by radiation, and their operation usually is determined by the rates of radiant-heat transfer that can be obtained and safely applied to the oil. The rates of radiant-heat transfer are determined by the flame temperature and by the quantity of heat liberated per square foot of projected effective heat-absorbing surface subjected to radiation. The relationship between the flame temperature, the quantity of liberated heat, radiant-heat absorption, and residual-gas temperature is shown in Fig. 7.

Air preheat increases the flame temperature. Air preheat, however, results in a reduction in the amount of fuel used, so that, even with the additional heat brought in by the preheated air, the heat liberation per square foot of effective projected surface for a given capacity of the heater is lower with air preheat than without it. The increase of radiant-heat absorption due to higher flame temperature is almost equal to the decrease due to lower heat liberation. Therefore, if the heater is operated at the same capacity in each case, the total radiant-heat absorption in a heater and the relationship between the radiant and convection heat pickup remain practically the same whether preheated air or cold air is used.

Preheated air can be used to increase the total capacity of a heater designed for cold-air firing, provided the increase will not overload the radiant-heat-absorbing surfaces which will be affected most by this increase. Higher amounts of liberated heat obtained at a higher capacity and the higher flame temperature obtained with preheated air will have an accumulative effect, so that the radiant-heat transfer rates will increase almost in proportion to the increase in capacity. The convection rates are changed very little with air preheat, within the range of capacity increase that is safe for the radiant-heat-absorbing surfaces.

(There follows in the original paper a portion omitted here, which describes and illustrates the principal types of air preheaters. There are 2 main classes, recuperative air preheaters and regenerative air preheaters.

In recuperative heaters, heat interchange between the flue gases and the air is obtained by continuous heat flow from the flue-gas stream to the air stream, through a membrane separating the streams. There are both plate and tubular recuperative type air preheaters.

In regenerative preheaters, the heat interchange is ob-

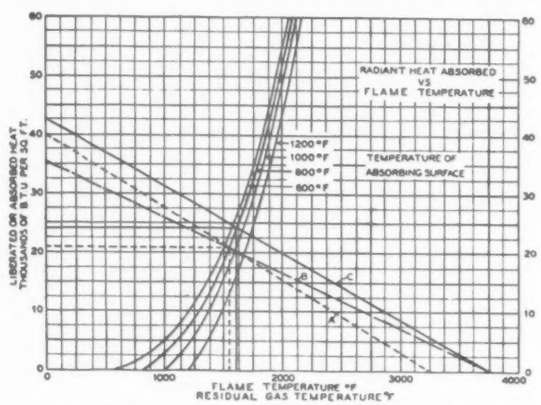

Fig. 7. Radiant-heat-absorption relationships

Examples:	A	B	C
	No Air Preheat	Preheated-Air Temperature, 660 Deg. F.; Heater Capacity Same as "A"	Preheated-Air Temperature, 660 Deg. F.; Heater Capacity Increased 15 Per Cent
Flame temperature, deg. F.	3,250	3,750	3,750
Liberated heat per square foot of equivalent effective surface, Btu.	40,000	36,000	42,500
Temperature of heat-absorbing surface, deg. F.	800	800	800
Absorbed radiant heat per square foot of equivalent effective surface, Btu.	21,000	21,000	24,000
Residual temperature of gases, deg. F.	1,550	1,550	1,580

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tained by storing heat from the flue gas in the elements while they are in the flue-gas stream during the heating cycle, and by the recovery of this heat by the air while the elements are in the air during the cooling cycle. The stationary element type contains 2 sets of elements, one set being heated while the other is being cooled, with the flow of air and flue gas alternately reversed from one type to the other. This type is not used on petroleum heaters. In the rotating-element type, which is used on petroleum heaters, the elements are made to pass, for one portion of the cycle, through the gas stream to absorb the heat from it and, for the remainder of the cycle, through the air stream, to transfer the stored heat in the air.)

The paper continues:

Economics of Air Preheaters

The profitability of an air preheater is determined by the relationship between capital expenditure for the air preheater, fans, motors, duct work, insulation, etc., the value of the fuel saved, and the cost of saving this fuel. The value of the fuel saved is the actual sales value of the fuel. Non-salable fuels, even though of marketable quality, cannot be given any value in determining this relationship, except insofar as they reduce the use of salable fuel consumed in the plant. The cost of saving the fuel consists of the cost of power used by the fans, maintenance cost, repairs, extra supervision, if any, and the fixed charges on capital expenditure. A preheater which produces the greatest net savings and repays the capital expenditure in the shortest time (payoff time) is usually the most suitable for a given installation. Net savings alone, or payoff time alone, is not always the proper criterion in determining the profitability of an air preheater.

Table 3 is a tabulation of economics of four types of air preheaters intended for identical service. The capital expenditure varies from a minimum of $15,855 for the tubular to a maximum of $20,555 for the natural-draft plate preheater. On the basis of payoff time alone, the induced-draft plate preheater is the most profitable of the four, and could be chosen to obtain the quickest return on the investment. However, at the end of the payoff period the natural-draft plate preheater will be saving approximately $5,000 per year more than the tubular preheater, and approximately $1,600 per year more than the induced-draft plate preheater—so that, under the conditions specified and with the short payoff time for all four preheaters, the natural-draft plate preheater is the most profitable.

The profitability of air preheaters of a given type, particularly the relative profitability of preheaters of different types, is affected by the preheater size and the fuel

TABLE 3

Economics of Air Preheaters as Affected by Type of Preheater

(Flue-Gas Temperature, 1,070 Deg. F.)

	Plate Preheaters			
	Natural-Draft	Induced-Draft	Tubular	Regenerative
Operating conditions:				
Capacity of heater, millions of Btu per hour delivered to oil	100			
Gas per hour, lb.	181,000			
Air per hour, lb.	173,000			
Temperature of air leaving preheater, deg. F.	550			
Fuel savings, millions of Btu per hour	31.9			
Savings, dollars per year of 330 days, 24-hour day, at 10 cents per million Btu ($792 per million Btu per year)	25,265			
Capital cost, dollars:				
Preheater	12,515	10,400	7,095	7,830
Fans and motors	1,140	3,140	4,140	4,615
Duct work, insulation, foundations	6,900*	4,620	4,620	4,650
Total capital cost	20,555	18,160	15,855	17,095
Power requirements, horsepower per hour:				
Cold-air fan	22.5	22.5	32.3	27.5
Exhaust-gas fan	.....	28.8	78.0	48.1
Total power, horsepower per hour	22.5	51.3	110.3	75.6
Operating cost:				
Power at $60 per horsepower-year	1,350	3,078	6,625	4,540
Insurance and taxes	950	830	715	770
Maintenance and repairs	1,260	5,158	1,250	1,300
Total operating cost	3,560	9,066	8,590	6,610
Net savings, dollars per year	21,705	20,107	16,675	18,655
Payoff time, in years	0.95	0.90	0.95	0.92
Payoff time, in months	11.4	10.8	11.4	11.0

*Includes cost of extra height of stack to obtain draft for preheater.

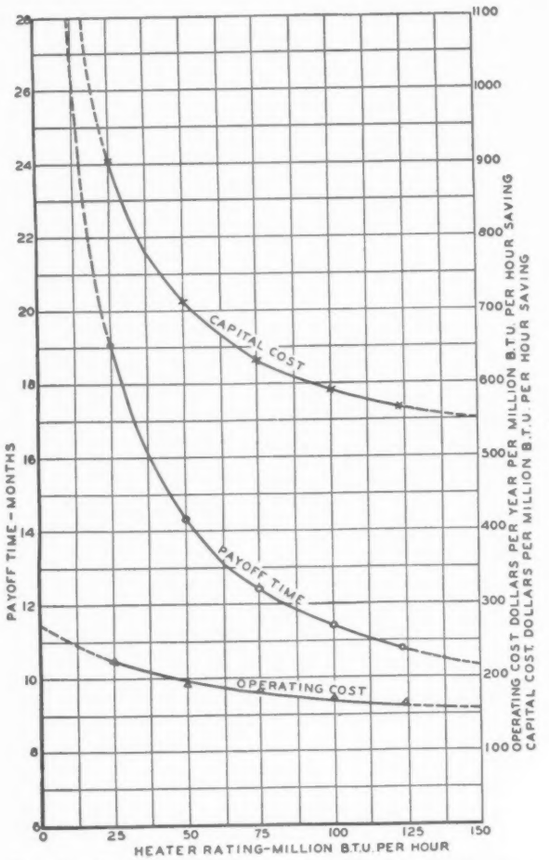


Fig. 21. Economics of induced-draft plate preheaters with change of capacity—flue-gas temperature, 1,070 deg. F.; Preheated-air temperature, 550 deg. F.

TABLE 4—Economics of Induced-Draft Plate Air Preheaters as Affected by Capacity of Heater

(Flue-Gas Temperature, 1,070 Deg. F.)

Case	A	B	C	D
Net heat input to oil, millions of B.t.u. per hour	25.0	50.0	75.0	100.0
Gas per hour, lbs.	36,700	73,400	110,100	146,800
Air per hour, lbs.	35,000	70,000	105,000	140,000
Fuel savings, millions of B.t.u. per hour	6.45	12.90	19.35	26.00
Savings, dollars per year of 330 days, 24-hour day, at 10 cents per million B.t.u. ($792 per million B.t.u. per year)	5,108	10,216	15,324	20,432
Capital cost:				
Preheater (including erection)	2,773	4,706	6,450	8,530
Cold-air fan and motor	392	638	821	1,042
Exhaust-gas fan and motor	654	1,022	1,411	1,707
Duct work, insulation, foundations, labor	2,000	2,850	3,500	4,000
Total capital cost	5,819	9,216	12,182	15,279
Operating cost:				
Cold-air fan, boiler horsepower	5.0	11.3	16.5	19.3
Exhaust-gas fan, boiler horsepower	6.5	10.8	15.8	23.5
Total power, horsepower per hour	11.5	22.1	32.3	42.8
Cost at $60 per horsepower-year	690	1,326	1,938	2,534
Insurance and taxes	275	440	580	725
Maintenance and repairs	475	750	970	1,200
Total operating cost per year	1,440	2,516	3,488	4,459
Net savings, dollars per year	3,668	7,700	11,836	15,973
Payoff time, in years	1.59	1.20	1.03	0.96
Payoff time, in months	19.1	14.4	12.4	11.5

savings desired. Table 4 and Fig. 21 show the change in economics of induced-draft plate preheaters with change of capacity of the heater on which the preheater is to be installed. Table 5 shows the change in economics of natural-draft and induced-draft plate air preheaters for a heater of a given capacity as the temperature of the preheated air is varied. On the basis of payoff time, 450 deg. F. is the optimum preheated-air temperature for the natural-draft preheater and 550 deg. F. for the induced-draft. With natural draft, an air preheater for 700-deg.-F. preheated air has to operate with such low velocities—due to the

(*Continued on page R-172*)

ANNOUNCEMENT

Petrolite Corporation, Ltd. is the owner of the following United States Letters Patent relating to the resolution, demulsification, breaking, or treatment of petroleum emulsions, cut oil, roily oil, bottom settlings, basic sediment, BS, and the like:

1,531,173	1,617,739	1,766,058	1,872,333	1,940,397	2,015,260	2,050.926	2,079,763	2,106,243	2,167,348
1,555,818	1,639,325	1,766,059	1,873,165	1,940,398	2,023,976	2,050.927	2,079,764	2,106,244	2,167,349
1,570,987	1,641,804	1,766,060	1,882,444	1,943,815	2,023,979	2,050,928	2,081,003	2,108,960	2,171,328
1,590,617	1,656,622	1,766,061	1,890,789	1,944,021	2,023,980	2,050,929	2,081,004	2,108,961	2,176,702
1,595,455	1,656,623	1,766,062	1,890,849	1,954,585	2,023,981	2,050,930	2,081,005	2,110,837	2,176,703
1,595,456	1,659,993	1,766.063	1,897.019	1,961,963	2,023,982	2,052,281	2,083,220	2,110,846	2,176,704
1,595,457	1,659,994	1,766,064	1,897,021	1,975,839	2,023,993	2,052,282	2,083,221	2,110,847	2,183,487
1,596,585	1,659,995	1,766,065	1,897,574	1,976,602	2,023,994	2,052,283	2,083,222	2,110,848	2,192,993
1,596,586	1,659,996	1,766,066	1,897,575	1,977,048	2,023,995	2,052,284	2,083,223	2,110,849	2,192,994
1,596,587	1,659,997	1,766,067	1,902,129	1,977,089	2,023,996	2,058,568	2,083,224	2,114,651	2,192,995
1,596,588	1,659,998	1,766,112	1,908.129	1,977,146	2,023,997	2.058,569	2,083.225	2,122,976	2,225.824
1,596,589	1,659,999	1,771,096	1,908,130	1,978,227	2,025,804	2,058,570	2,085,298	2,126,368	2,226,118
1,596,590	1.660 000	1,773,517	1,910.680	1,979,347	2,025,805	2,072,085	2,085,299	2,127,905	2,226.120
1,596,591	1,660.001	1,780.343	1,913.538	1,984,633	2,026,195	2,076,623	2,086,215	2,153,744	2,226,121
1,596,592	1,660.002	1,780.344	1,926,715	1,985,692	2,026,217	2,076,624	2,086,216	2,153,745	2,226,122
1,596,593	1,660 003	1,780.345	1,929,399	1,985,720	2,026,218	2,077,229	2,086,217	2,153,746	2,226,123
1,596,594	1,660.004	1,802.090	1,938.322	1.988.832	2,026,219	2,077,230	2,089,035	2,154,422	2,231,752
1,596,595	1,660.005	1,812,393	1,938,323	1,988,833	2,034,941	2.077.745	2,104,793	2,154,423	2,231,753
1,596,596	1,710,159	1,829,205	1,940,390	1,988,834	2,034,963	2,077,746	2,104,794	2,166,431	2,231,754
1,596,597	1,727,164	1,834,940	1,940.391	1,988,835	2,037,885	2,078,652	2,104,795	2,166,432	2,231,755
1,596,598	1.727,165	1,837,130	1,940.392	1,990,293	2,037,886	2,078,653	2,106,239	2,166,433	2,231,756
1,597,700	1,747,119	1,842,934	1,940 393	1,994,758	2,050,923	2,078,654	2,106,240	2,166,434	2,231,757
1,606,698	1,747,987	1,858,186	1,940,394	2,000,717	2,050,924	2,078,655	2,106,241	2,167,346	2,231,758
1,617,737	1,758,802	1,863,143	1,940.395	2,000,725	2,050,925	2,079,762	2,106,242	2,167,347	2,231,759
1,617,738	1,766,057	1,872,286	1,940,396	2,000,802					

Chemical demulsifying agents for use in practicing the aforesaid patented inventions are manufactured and sold by Petrolite Corporation, Ltd. under the trade names "Tret-O-litE" and "Dehydro."

Pursuant to the opinion of the United States Circuit Court of Appeals for the Ninth Circuit in Dehydrators, Ltd. et al. v. Petrolite Corporation, Ltd., 117 Fed. (2d) 183, Petrolite Corporation, Ltd. has fixed a royalty fee for the use of any or all of the aforesaid patented inventions at 20c per gallon ($10.00 per 50-gallon drum) of chemical demulsifying agent employed, whether obtained from Petrolite Corporation, Ltd., or from any other source.

A license is hereby granted to any one desiring to use the aforesaid patented inventions, conditioned only upon the payment of the aforesaid royalty. This license permits the user to employ any chemical demulsifying agent obtained from whatever source he desires.

Payment of the royalty shall be due within 30 days after the manufacture by, or shipment to, the user of the volume of chemical demulsifying agent involved. A cash discount of 2% is allowed if payment is made on or before the 20th day of the calendar month following the date of such manufacture or shipment.

Purchasers of the chemical reagents of Petrolite Corporation, Ltd. shall make payment to the office from which such royalties are invoiced. All other royalty payments may be made to Petrolite Corporation, Ltd. at 937 Pacific Avenue, Webster Groves, Missouri.

Any payment of such royalty shall not constitute an acknowledgement of the validity of any of the foregoing patents.

PETROLITE CORPORATION, LTD.

Regenerative-Type Air Heater For Refinery is Described

Presented at American Petroleum Institute Mid-Year Meeting, Tulsa, May 21

By O. F. Campbell* and T. B. Kimball*

One type of regenerative air preheater, for heat-exchanging flue gases with air for combustion, is described and its application to a downdraft de Florez cracking-still furnace is shown.

A table shows expected performance of a cracking-still furnace, wherein the convection bank has been eliminated and an air preheater substituted for it, as compared with the performance of a cracking-still furnace equipped with a convection bank. Where flue gas temperatures exceed 1400 degrees, it is suggested the installation of a convection bank, supplemented by an air heater, might prove more economical than the installation of a high-temperature air heater, requiring high priced alloys in its fabrication.

Advantages and disadvantages of this type of air preheater are given. One advantage is that they can be cleaned readily.

That portion of the paper describing the preheater and its application to the deFlorez furnace is published herewith. The remainder which discusses operating data and advantages and disadvantages of this type of heater is summarized.

THE Ljungstrom air heater (Figs. 1 and 2) operates on the continuous-counterflow-regenerative principle. The construction by which this continuous-counterflow-regenerative principle is applied includes the use of a slowly moving rotor containing the heating surface. Each revolution produces a complete cycle of heat exchange, in which heat from the hot flue gases is absorbed constantly by the metal plates and is given up to the air as the rotation moves the heated plates into the path of the combustion air. The housing of the Ljungstrom air heater is divided into two end compartments and a middle compartment, the latter containing the rotor. The end compartments are divided by partitions, confining the flue gases to one side of the apparatus and the air to the other. Seals are used to keep to a minimum the leakage of air into the flue gases. Different types of seals are used, such as the bulb-type and the labyrinth-type, and the use of each is governed by the operating temperature of the air heater. There are 2 general designs of Ljungstrom air heaters—the vertical and the horizontal. Each type operates with equal satisfaction, and the type selected depends upon the convenience of the installation.

Ljungstrom air heaters are built in a number of standard sizes in a sufficient number of steps between the largest and the smallest to be adapted easily to units of any capacity. They also are built for any entering flue-gas temperature range up to approximately 2,000 deg F. For the higher temperature ranges, from 1,000 to 2,000 deg F, suitable alloys are used to withstand the higher

*Sinclair Refining Co., East Chicago, Ind.

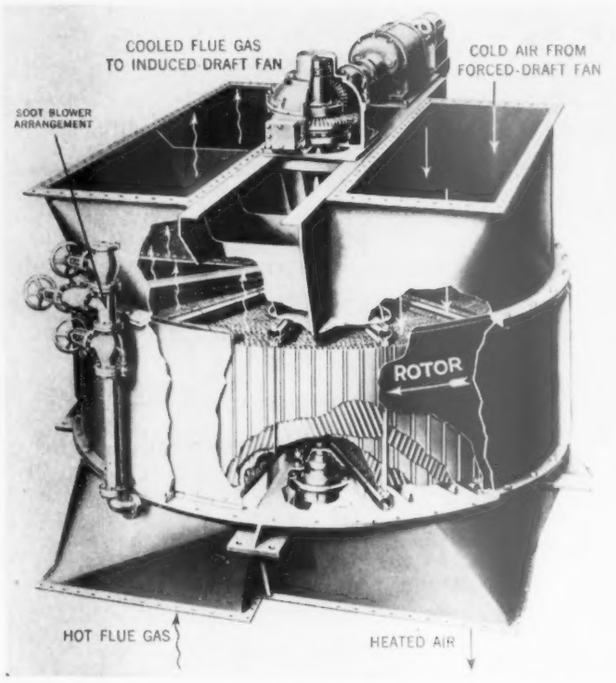
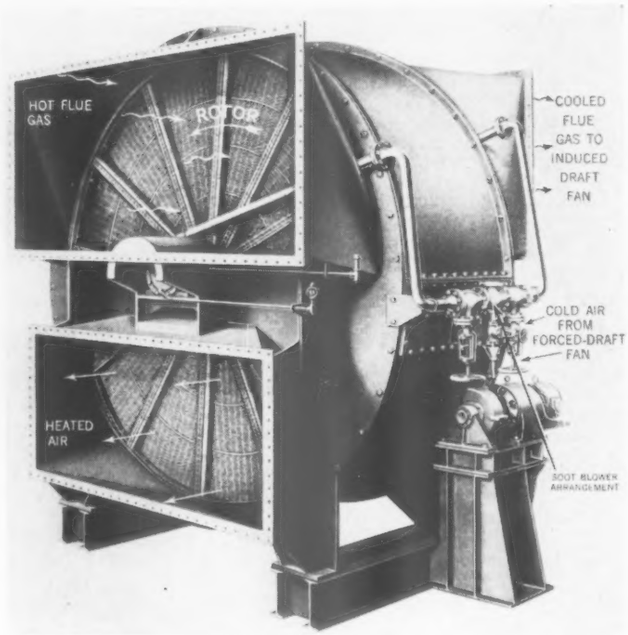


Fig. 1—Vertical-top-drive-type Ljungstrom air heater



(Courtesy Air Preheater Corp.)

Fig. 2—Horizontal-type Ljungstrom air heater, showing soot blowers and flue gas flow through upper section

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temperatures. For the higher temperatures, alloy labyrinth seals usually are used; and, for the lower-temperature operations, the bulb- or expansion-type seals normally are employed.

Air-Heater Application to deFlorez Cracking Furnace

The economical design and operation of a cracking-still furnace, equipped with expensive alloy tubes and headers, demands that the Btu absorption per square foot of oil-heating surface per hour be maintained as high as possible in order to reduce the number of tubes and headers and to reduce pumping costs. It is conceded generally that, in the modern cracking-still furnace, the oil tubes located in the radiant section of the furnace absorb more heat per square foot of surface per hour than does the convection bank of tubes; and, therefore, it appears evident, from a maximum heat-absorption standpoint, using a minimum amount of surface, that all of the oil tubes be located in the radiant section. To do this without adding additional heat-recovery equipment would result in a very inefficient furnace.

The deFlorez downdraft furnace without a convection bank, but equipped with an air heater capable of operating with a flue-gas inlet temperature under 1400 deg F, provides a unit that can operate at high rates of heat absorption by the oil tubes, and also operate at a high efficiency. The general arrangement of the furnace, air heater, fans, ducts, etc., is shown in Fig. 4. The flue gases from the furnace pass directly through the air heater into the suction of the induced-draft fan, and then to a self-supporting steel stack. The air for combustion passes from the discharge of the forced-draft fan directly to the air heater, and then to the burners. The forced- and induced-draft fans are driven by a single motor, which is interlocked electrically with the air-heater driving motor so that, when the rotor stops, the fan motor stops. This electrical interlocking device protects both air heater and fans. Located between the forced-draft fan and the induced-draft fan is a hydraulic coupling. By varying the oil level in the hydraulic coupling the speed of the induced-draft fan can be controlled as desired to provide the necessary draft on the outlet of the air heater, with minimum power requirements.

Economy of Installation

The economy of eliminating the convection bank of a cracking-still furnace and substituting for it an air heater depends upon the cost of the convection bank, the cost of air heater and fans, the cost of power to drive the fans, and fuel price. Table 1 is included to show the expected performance of a cracking-still furnace that is equipped with a convection bank and a cracking-still furnace, wherein the convection bank has been eliminated and an air heater substituted for it. For comparative purposes, the temperature of the charging stock to the furnace has been assumed to be 700 deg F; fuel price is assumed to be equivalent to $1.00 per barrel of fuel oil, and the cost of electrical energy at 7 mills per kilowatt-hour. The heat absorbed by the oil tubes has been assumed to be 70 millions of Btu per hour for each furnace. From the annual fuel saving has been deducted the cost of electrical energy for driving the forced- and induced-draft fans. The annual net saving under the above conditions, which amounts to $16,320, more than justifies the added cost, if any, of an air heater and fans over the conventional cracking still equipped with a convection bank. Estimates covering installations of downdraft deFlorez heaters have indicated that an all-radiant furnace, supplemented by a Ljungstrom air heater, is the more economical in both capital charges and operating costs.

TABLE 1—Comparative Fuel and Power Costs

	With Air Heater	Without Air Heater
1. Heat absorption per hour, millions of B.t.u.	70	70
2. Oil-inlet temperature, deg. F.	700	700
3. Flue-gas temperature to stack, deg. F.	400	950
4. Carbon dioxide to stack, per cent	10.0	11.0
5. Oxygen to stack, per cent	5.2	3.7
6. Efficiency (assuming 5 per cent radiation loss), per cent	78.5	66.0
7. Millions of B.t.u. required per hour	89.17	106.06
8. Annual cost of fuel ($1.00 per barrel of fuel oil —8,000 hours)	$109,760	$130,560
9. Kilowatt-hours	80	.....
10. Annual cost of energy at 7 mills per kilowatt-hour (8,000 hours)	$ 4,480	.....
11. Annual operating cost—fuel and energy (8,000 hours)	$114,240	$130,560
12. Annual fuel saving	$ 20,800	.....
13. Annual net saving in operating costs (fuel saving less energy costs)	$ 16,320	.....

IN a conventional cracking still, wherein flue-gas temperatures may exceed 1,400 deg F when the gas leaves the radiant section, the installation of a convection bank, supplemented by an air heater, might prove more economical than the installation of a high-temperature air heater requiring high-priced alloys in its fabrication. There are many cracking stills installed at the present time which, from a fuel-saving standpoint, could justify the installation of an air heater. There are, moreover, other advantages from the use of highly preheated air under forced and induced draft, such as a greater rate of radiant-heat absorption by the oil tubes, more uniform heat distribution in the furnace, lower flue-gas temperatures entering the air heater or convection bank, better flame control, less influence on oil-transfer temperatures from atmospheric changes, etc. Also, highly preheated air improves the burning of liquid fuel, especially when heavy residual tars or asphalt is burned.

The remainder of this paper is given in summary form.

The paper includes two tables which present normal operating data on two groups of deFlorez furnaces, without convection banks but equipped with Ljungstrom air heaters. The tables include different sizes of air heaters, with different length air heater elements.

Variable firing rates for the two groups of furnaces are included, in order to show air heater performance over a wide range of operating conditions. The firing rate of one of the smaller furnaces is shown to be higher than some of the firing rates of the larger furnaces. The variations in air and flue gas temperatures are a function of the ratio of air to flue gas flow through the air heater.

"If the cold air that infiltrates into the furnace enters into combustion, the flue gas temperature entering the air heater rises—and so does the hot air as well as the stack temperature," state the authors. "Infiltration of cold air into the furnace should be avoided to obtain maximum efficiency.

"It is noted that the average efficiencies of these furnaces equipped with air heaters, regardless of firing rates,

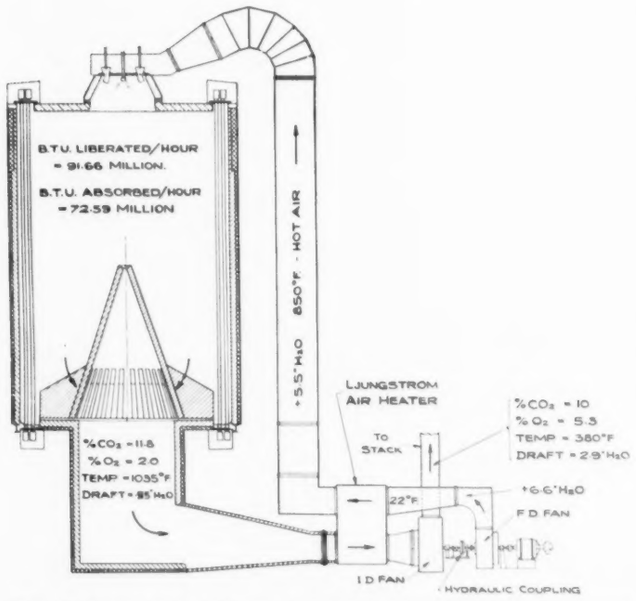

Fig. 4—Downdraft deFlorez furnace equipped with Ljungstrom air heater

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are higher than most refinery boilers. All efficiencies are calculated on the gross heating value of the fuel. Data shown are for normal operations and were not taken under special test conditions. Better efficiencies have been obtained under tests."

The discussion points out that, when highly preheated air is used, attention must be given to the burner design and material, in order to provide burners that will operate satisfactorily and withstand high air temperatures without undue maintenance.

Disadvantages of the Ljungstrom air heater installations are as follows, as summarized from the presentation in the paper:

High power requirements for the forced- and induced-draft fans, which must normally be used with these installations. Tests with fans designed to deliver air at a static pressure of 9 in. of water and a suction pressure on the induced-draft fan of −5 in. of water have shown power requirements amounting to approximately 0.9 kwh per million Btu liberated in the furnace.

Extent of air leakage depends upon some sealing device to prevent the air from leaking into the flue gases. It is shown the amount of leakage depends primarily upon the difference in pressure between the air and the flue gas and upon the effectiveness of the seals. For high-temperature air heaters, in which expansion is the greatest, average leakage approximates 15 to 20%. Since most of the leakage occurs at the cold end of the air heater, the amount of leakage is said not to materially affect the efficiency of the heat recovery of the preheater and its principal effect is to increase the power requirements for both the forced- and induced-draft fans.

The seals are said to usually last from 2 to 5 years, depending upon the service, and adjustments are made approximately twice a year, during normal shutdowns.

IT is stated that care must be taken to avoid excessive accumulations of soot or sulphur deposits, which are liable to auto-ignition in case rotor stoppage occurs from power failure or from mechanical difficulty.

The advantages of this type of air heater installations were summarized as follows:

Their smaller size, less weight and greater compactness keeps down foundation and installation costs.

They are readily cleaned by means of steam or air soot blowers, operated a few moments each day. The elements are usually cleaned by washing with warm water at the end of each run, or they may be washed with water during normal operations, if provisions have been made to dispose of the wash water.

Each portion of the heating surface passes through the entire air and gas streams; thus cold spots are eliminated and the resulting temperature in the coolest region, viz., where the air enters and the flue gas leaves, is uniform in all heating plates, and is a true average of the final gas and air temperatures. The flue gases may be reduced to appreciably lower temperatures and higher overall efficiencies can be maintained without the danger of corrosion.

The action of the heater tends to delay corrosion and there are other means of controlling corrosion, such as by-passing some of the cold air around the air heater, or returning some hot air to the suction of the forced-draft fan. Air heaters of this type are said to have been in operation for 3 years on deFlorez downdraft furnaces, burning refinery gas containing 2000 to 3000 grains of hydrogen sulfide per 100 cu. ft., without excessive repairs.

High gas velocity through the short, straight gas passages greatly reduces the possibility that soot can collect on the heating surfaces.

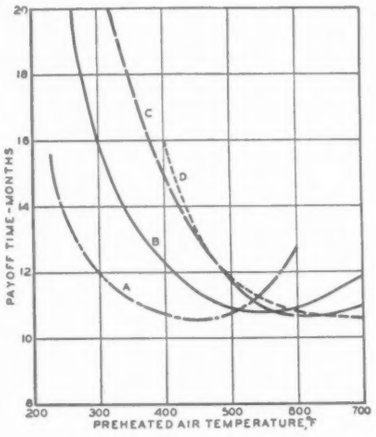
Another advantage of this type of air heater during shutdowns is said to be that the furnace may be cooled more rapidly by stopping the air-heater rotor and operating the forced- and induced-draft fans.

The authors acknowledge the assistance of the Air Preheater Corp., Richfield Oil Corp. and the Coen Co. in furnishing illustrations and part of the operating data.

Air Preheaters for Petroleum Heaters

(*Continued from page R-166*)

limited draft available with the low-temperature flue gases leaving the preheater—that, with the low-temperature differences prevailing under the operating conditions, the preheater becomes unreasonably large and expensive. Therefore, the economics of the natural-draft air preheater is omitted for case 4 of the comparison. Fig. 22 shows the effect of variation in temperature of preheated air on the payoff time of four types of air preheaters for a heater of a given size. The lowest point in the payoff-time curves coincides with the point of greatest net savings obtained with this size preheater, so that the curves may be used as an indication of the optimum air-preheat temperature for each type. Operation of any of these preheaters much above the optimum air-preheat temperature may make their use unprofitable.



A—Plate, Natural-Draft.
B—Plate, Induced-Draft.
C—Tubular.
D—Regenerative.

Fig. 22. Change in payoff time of different types of preheaters with change of preheated-air temperature—Flue-gas temperature 1,070 Deg. F.

TABLE 5
Change in Economics of Plate-Type Air Preheaters with Change of Preheated-Air Temperatures

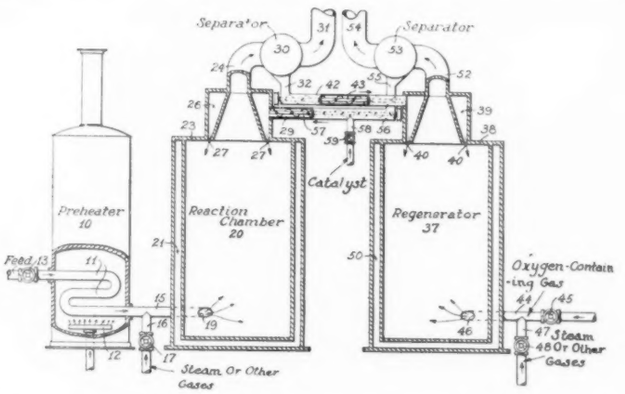
	1		2		3		4
Case	Natural-Draft	Induced-Draft	Natural-Draft	Induced-Draft	Natural-Draft	Induced-Draft	Induced-Draft
Gas per hour, lb.	200,000		187,000		181,000	173,000	
Air per hour, lb.	192,000		179,000		173,000	166,000	
Temperature of air leaving preheater, deg. F.	250		450		550	700	
Fuel savings, millions of Btu per hour	13.2		26.0		31.9	39.3	
Savings, dollars per year of 330 days, 24-hour day, at 10 cents per million Btu ($792 per million Btu per year)	10,454		20,592		25,265	31,226	
Capital cost:							
Preheater (including erection)	4,076	3,536	8,880	7,380	12,515	10,400	17,750
Cold-air fan and motor	1,165	1,165	1,140	1,140	1,140	1,140	1,125
Exhaust-gas fan and motor	.....	4,810	.....	2,465	.....	2,000	1,740
Duct work, insulation, foundations, labor	2,870	3,100	3,600	4,225	4,100	4,620	4,950
Additional height of stack	1,400	.....	1,900	.....	2,800	.....	.....
Total capital cost	9,511	12,611	15,520	15,210	20,555	18,160	25,565
Operating cost:							
Cold-air fan, boiler horsepower	20.0	20.0	22.5	22.5	22.5	22.5	15.5
Exhaust-gas fan, boiler horsepower	.....	28.8	.....	25.0	.....	28.8	26.4
Total power, horsepower per hour	20.0	48.8	22.5	47.5	22.5	51.3	41.9
Cost at $60 per horsepower-year	1,200	2,928	1,350	2,850	1,350	3,078	2,514
Insurance and taxes	425	580	715	700	950	830	1,010
Maintenance and repairs	450	500	900	975	1,260	1,250	1,900
Total operating cost per year	2,075	4,008	2,965	4,525	3,560	5,158	5,424
Net savings, dollars per year	8,379	6,446	17,627	16,067	21,705	20,107	25,802
Payoff time, in years	1.14	1.96	0.88	0.95	0.95	0.90	0.99
Payoff time, in months	13.7	23.5	10.6	11.4	11.4	10.8	11.9

Catalytic Refining Developments As Shown by Recent Patents

Flowing Catalyst

Indicative of a general study of methods of applying catalysts to chemical reactions in petroleum refining by other than the use of beds of catalysts, is a recent patent on an apparatus which provides carrying the catalyst in suspension so that the spent catalyst is continuously withdrawn from the reaction zone, regenerated, and then returned for further catalytic action.

The objects of this invention, which is the work of Philip Subkow, Union Oil Co. of Cal., are described in patent No. 2,241,231, issued Feb. 11, 1941. The principal objects are to avoid the disadvantages of "catalytic treatments of the batch type." The objects are attained "by effecting a continuous catalytic contact by commingling



a granular or finely divided or pulverized catalyst with vapor or gases upon which the catalyst is to operate, causing said catalyst to be held in suspension in said vapor or gases by imparting thereto an optimum or sufficient velocity and/or turbulence, maintaining conditions to cause a catalytic reaction, and separating the catalyst from the products of reaction. The catalyst may be regenerated and re-commingled with new quantities of vapors or gases to be catalytically treated in cycles of operation. The main features of the process become obvious in studying the accompanying drawing of the apparatus. Patent claims cover vapor phase cracking, polymerization, reforming, dehydrogenation, and other general processes.

* * *

New Cracking Catalyst

"A new and superior catalyst for use in catalytic cracking" is disclosed in patent No. 2,230,464, issued Feb. 4, 1941, to R. F. Marschner, Standard Oil Co. (Ind.). The catalyst is referred to as "boron silicate" but can be any material of the general composition

$$aB_2O_3 \cdot bSiO_2 \text{ or } aB_2O_3 \cdot bSiO_2 \cdot cH_2O$$

The catalyst is prepared from silica gel and boric acid.

* * *

Catalytic Cracking

A method of producing aviation gasoline which will meet the required acid heat specifications without sacrifice in yield or in reduction of octane number has been developed by Alexis Voorhies, Jr., Standard Oil Co. of La. Patent No. 2,230,552, issued Feb. 4, 1941, is assigned to Standard Oil Development Co.

It was found that by the proper selection of feed stock, catalysts, and cracking temperature it is possible to produce a finished gasoline having a high octane number, good lead susceptibility, and low acid heat with little if any further refining treatment. The feed stocks should contain largely constituents boiling below 600° F. and have an aniline point below 155° F. The cracking catalyst is preferably a synthetic gel comprising silica and alumina and the cracking operation is carried out at relatively low temperatures, preferably about 750° F.

* * *

Catalytic Condensation

"Catalytic condensation" is a new term applied to a process developed by R. D. Pinkerton, Sinclair Refining Co., which includes both alkylation and polymerization of gaseous hydrocarbons. According to his invention, on which he was issued Patent No. 2,231,831, Feb. 11, 1941, the condensation takes place in several stages operated under progressively lower pressures.

The first stage is operated at a pressure and temperature to promote alkylation and in the succeeding stages lower pressures tending to promote polymerization are used. Succeeding stages also may be operated at progressively higher temperatures which have a further tendency to promote polymerization.

Several advantages are said to result from use of this process. "First, more complete reaction of unsaturates is effected without limiting the extent to which alkylation is effected. Second, the average effective life of the catalyst is improved in that decreasing pressures, and increasing temperatures if they are used, promote the desorption of liquid condensation products in the later stages of catalyst contact. Third, since somewhat lower pressures apparently are effective for alkylation as the concentration of liquid condensation products increases, lower average pressures may be made effective for the production of comparable recoveries."

Known condensation catalysts such as the phosphoric acid catalysts are employed in the process. In the first catalyst chamber the temperature may be 250-350° F. and the pressure high enough to maintain flow through the several catalyst chambers and into the pressure receiver (500-1500 psi.)

A straight alkylation process employing a phosphoric acid catalyst to promote reaction of isobutane and butylene is disclosed by Pinkerton and Mendius in patent No. 2,233,144, issued Feb. 25, 1941. Temperatures of 150-450° F. and a pressure of 500 psi. are employed.

* * *

Alkylation

An alkylation process with phosphoric acid catalysts is described in patent No. 2,241,452, issued to J. C. Morrell, Universal Oil Products Co., Feb. 11, 1941. The reactions take place at 200-500° C. (392-932° F.) and 500-5000 psi. A feature of the process is the employment of optimum temperature and pressure combinations and use of the so-called "solid" phosphoric acid catalyst.

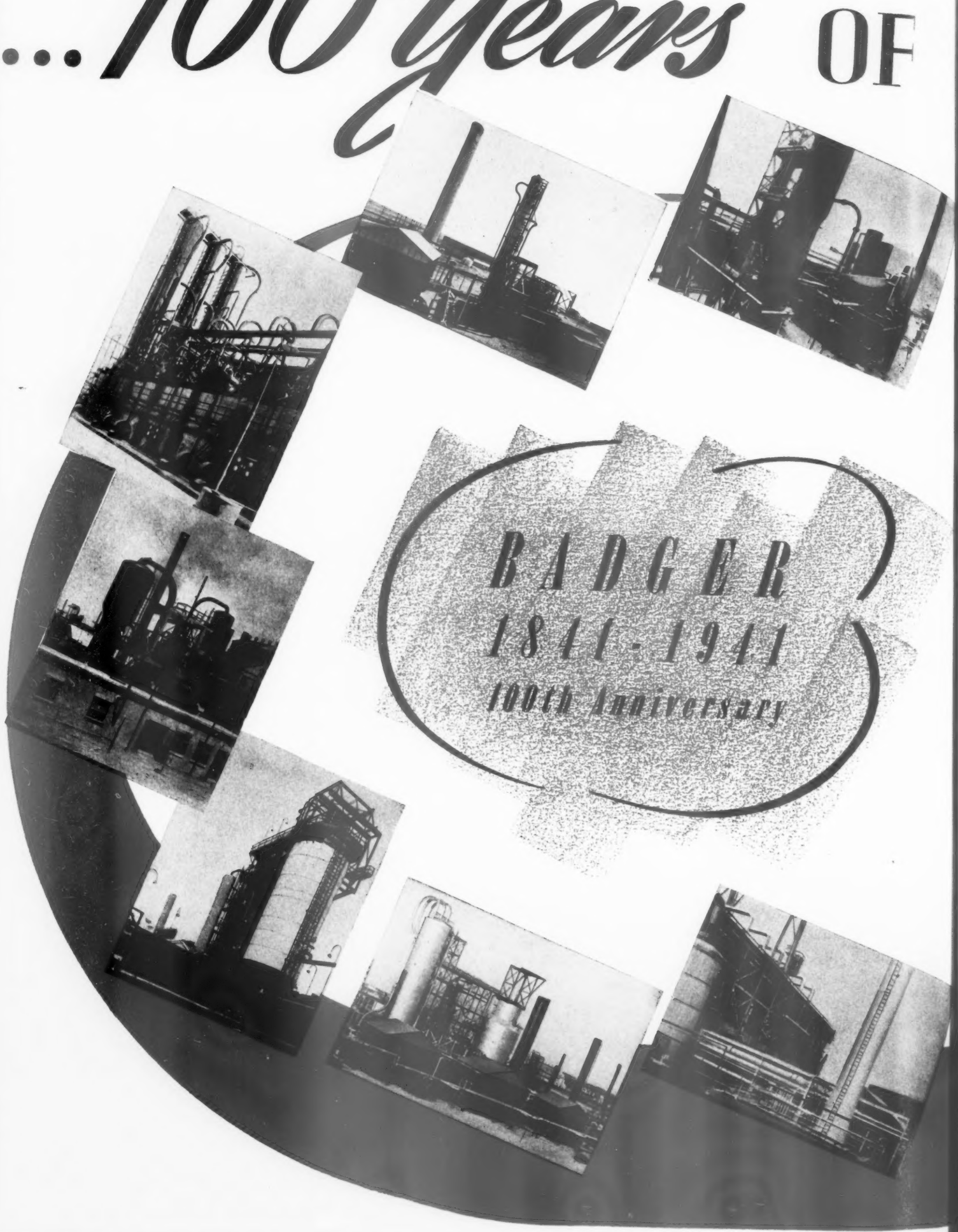
The process is said to be particularly applicable to the alkylation of isobutane and its olefinic counter-parts, the butylenes, with propylene, and in some cases with ethylene. The process has particular advantages when used on cracked gases, it is said, but may be applied to any olefin and any iso-paraffin or mixtures thereof. An essential to the promotion of the alkylation reactions in preference to those of polymerization is to maintain a considerable excess of the iso-paraffin in the reaction zone at all times.

* * *

Alkylation

A process for direct union of gaseous paraffins and olefins by employing polymerization catalysts under new

...100 Years OF



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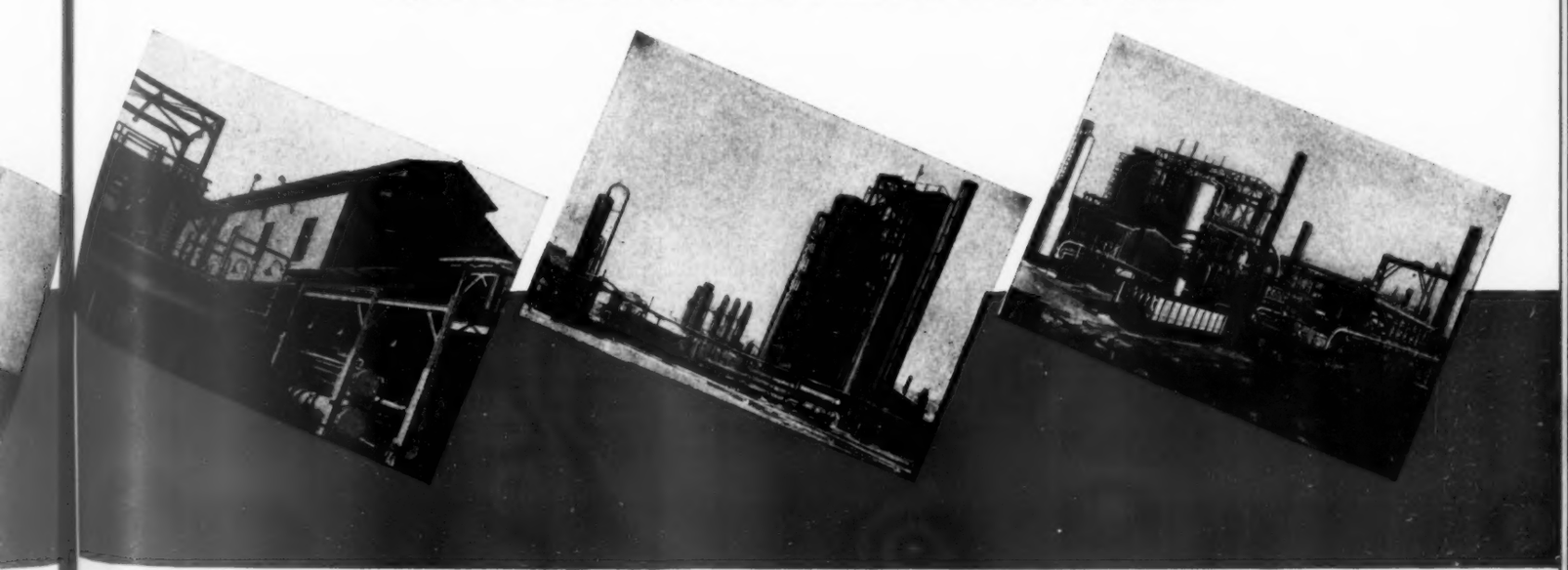


and appropriate conditions is described by Frey, McKinney, and Wood, Phillips Petroleum Co., in patent No. 2,233,363, issued Feb. 25, 1941. Catalysts effective for the reaction are aluminum chloride chemically combined with an equimolar quantity, more or less, of lithium, sodium, calcium, and potassium chloride, and the corresponding double compounds in which chlorine is replaced by bromine.

The process provides for passing the hydrocarbon stream into contact with the catalyst while maintaining a reaction temperature and while adding small quantities of olefin at intervals to assure low concentration. The temperature of reaction is somewhat higher than the optimum for catalytic polymerization (212-750° F., depending on the catalyst used) and pressures of 400-2500 psi. are preferable in most cases.

* * *

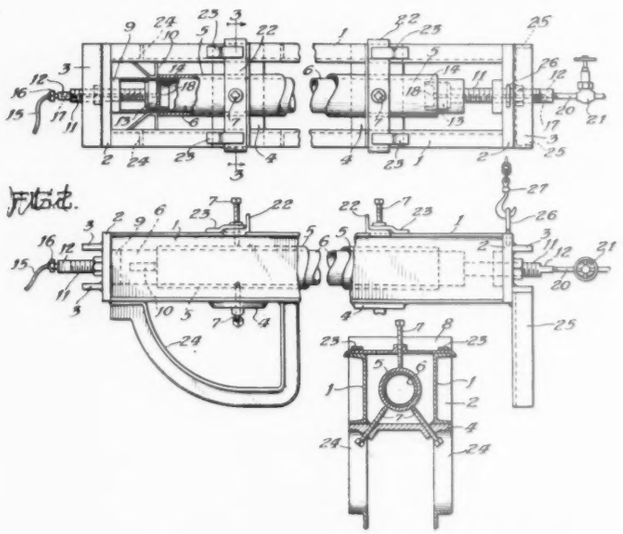
Olefin Separation

A method of separating olefins from gaseous mixtures containing paraffins and acetylene without forming explosive compounds has been developed by R. F. Robey, Standard Oil Development Co. Acetylene has been found to be present in gaseous mixtures obtained by cracking. The process provides treating the gases with an olefin-saturated slurry of cuprous chloride in dilute hydrochloric acid and ammonium chloride at 32-104° F., separating the gases and treating with a solution of cuprous chloride in hydrochloric acid and ammonium chloride at the same temperature, subjecting the solution of cuprous chloride, hydrochloric acid and ammonium chloride to heat and liberating the olefins. The process is described in patent No. 2,232,869, issued Feb. 25, 1941.

* * *

Tube Lining Apparatus

An apparatus for expanding liners into tubes is described in patent No. 2,228,139 issued Jan. 7, 1941, to E. C. Leonhardy and assigned to Universal Oil Products Co. The expansion is accomplished by application of internal fluid pressure and is said to be much more rapid than



previous methods, involving only the relatively simple and inexpensive equipment shown herewith. A high pressure pump or compressor of any desired form capable of building up a pressure of 6000 psi. may be used. Using only a hand pump, the entire tube expanding operation may be accomplished in 12 minutes without haste as compared with one hour when drawing a tapered plug through a tube or 4 to 6 hours when using special beating, spinning, or rolling equipment, the patent disclosure states.

New Patents

Compiled by R. E. Burnham, patent and trade-mark attorney, 511 Eleventh Street, NW, Washington, D. C., from whom copies may be obtained at rate of 25c each. State number of patent and name of inventor when ordering.

March 18, 1941

Hydrocarbon conversion—G. B. Zimmerman, assignor to Universal Oil Products Co. Filed Oct. 16, 1939. No. 2,235,133.

Method and apparatus for treating heavy hydrocarbon oils for subsequent cracking—E. A. Ocon, Yonkers, N. Y. Filed Feb. 7, 1938. No. 2,235,329.

Alkylation process—A. N. Sachanen and S. B. Davis, assignors to Socony-Vacuum Oil Co. Filed Sept. 28, 1938. No. 2,234,984.

Voltolization of hydrogenated products—W. J. Sweeney, assignor to Standard Oil Development Co. Filed Dec. 30, 1937. No. 2,235,124. (Treating petroleum lubricating oil fraction)

Process for removing volatile solvents from polymerized substances—C. W. Tyson, assignor to Standard Oil Development Co. Filed Sept. 21, 1938. No. 2,235,127.

Lubricant capable of carrying heavy loads—A. J. Morway, and J. C. Zimmer, assignors to Standard Oil Development Co. Filed Sept. 20, 1938. No. 2,235,161.

Production of gas mixtures for catalyst reactivation—Robert Pyzel, assignor to Universal Oil Products Co. Filed Feb. 8, 1937. No. 2,235,166.

Antiknock motor fuel—A. J. van Peski, Nicolaas Max, J. A. van Melsen, and P. L. Stedehouder, Amsterdam, Netherlands, assignors to Shell Development Co. Filed June 6, 1938. No. 2,235,466.

Resolution of oil and water emulsions—F. C. Koch, assignor to Winkler-Koch Patent Co. Filed May 10, 1938. No. 2,235,639.

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March 25, 1941

Chemical treatment of petroleum distillates (sweetening)—L. U. Franklin, assignor to Gulf Oil Corp. Filed Feb. 24, 1937. No. 2,235,921.

Process for treating hydrocarbons—W. B. Lerch, C. H. Mathis, and E. J. Gatchell, assignors to Phillips Petroleum Co. Filed June 20, 1938. No. 2,235,936.

Sweetening gasoline—Charles Wirth III and W. B. Stanley, assignors to Universal Oil Products Co. Filed Sept. 8, 1939. No. 2,236,080.

Catalytic conversion of hydrocarbon oils—J. G. Alther, assignor to Universal Oil Products Co. Filed May 5, 1939. No. 2,236,083.

Treatment of paraffin hydrocarbons—V. N. Ipatieff and Herman Pines, assignors to Universal Oil Products Co. Filed Apr. 17, 1939. No. 2,236,099.

Catalytic desulfurization of olefin hydrocarbons—A. L. Lyman and R. C. Mithoff, and H. B. Nichols, Larchmont, N. Y., assignors to Standard Oil Co. (Cal.) Filed Dec. 6, 1938. No. 2,236,216.

Lubricant for internal combustion engines—N. F. Toussaint, H. J. R. Gaspari, and H. A. Ambrose, assignors to Gulf Research & Development Co. Filed Jan. 17, 1939. No. 2,236,120.

Lubricant—M. A. Dietrich, assignor to E. I. du Pont de Nemours & Co. Filed Feb. 27, 1940. No. 2,236,168.

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